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INSIDE

Mac II hard disks
Drought hits dealers
Page 2

Banking on Macs
Apple in a pin-striped world
Page 9

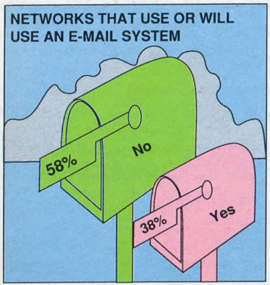
Delivering efficiency
Electronic mail reviews
Page 19

"A drawing is an illusion of physical reality. The artist transforms 3-D reality into 2-D illusion."

Mac magic
Young Harvill of VPL Research discusses the DataGlove
Page 23

ZOOM IN

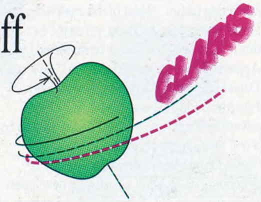
NETWORKS THAT USE OR WILL USE AN E-MAIL SYSTEM



Source: June 1987 Creative Strategies/MacWEEK

Apple software spinoff christened 'Claris'

Developers fear ex-Apple staff will take 'secrets' to new firm



BY ABIGAIL CHRISTOPHER
and RICK LEPAGE
MacWEEK Staff

CUPERTINO, Calif. — Apple Computer Inc. last week completed the self-surgery it began two and a half months ago by giving a name, Claris Corp., to its spinoff software arm. The company also issued a statement of direction and announced the new firm's management team.

The name "Claris" is said to connote the company's "clear vision" and reportedly was chosen from a Latin dictionary by William Campbell, company president, and John Zeisler, marketing vice president.

The statement of purpose said the personal-computer industry is in its "second generation" and that Claris hopes to be a major force in the design of second-generation software.

For now, Claris will market, support and update current Apple products such as MacWrite and MacPaint, according to a source within Apple. System software will continue to be Apple products.

In addition, Claris will develop and market new software to strengthen Apple's position in new and existing Mac markets such as CAD and desktop publishing. Claris also intends to acquire independent software companies and

See CLARIS, Page 24

Apple faces risky choice on play of HyperCard

BY ELINOR CRAIG
MacWEEK Staff

CUPERTINO, Calif. — To be or not to be? System software or application program? That is the question Apple faces with HyperCard, according to Bill Atkinson, author of the program.

By labeling the strategic program as system software, Apple could bundle HyperCard with new Macs. But some developers claim this is only a transparent effort to circumvent demands that Apple not compete in the application software marketplace.

"Calling it system software doesn't make it so," says Atkinson. "But this is definitely not just a label. What makes it system software is that others can build on it. You can't do that with an application."

HyperCard is expected to be unveiled at the Mac Expo in Boston in August, Atkinson says.

See HYPERCARD, Page 24

Merger madness strikes Macintosh market

BY CLAIR WHITMER
and ABIGAIL CHRISTOPHER
MacWEEK Staff

MOUNTAIN VIEW, Calif. — Merger mania hit the Mac market last week, with Living Videotext joining Symantec Corp., and Ansa and Borland International coming together.

The mergers dramatize the growing interest of PC companies in the maturing Macintosh business. Borland, the Scotts Valley, Calif., maker of SideKick, and the nation's fourth-largest microcomputer software company, will merge with Ansa of Belmont, Calif., known for its Paradox PC database, according to sources.

Gordon Eubanks, president and CEO of Symantec, says his company is going to combine its technology with Living Videotext's to produce "software that will be able to work across both Macintosh and IBM PC platforms, or to share data." He says he wants to develop software that will support "group productivity instead of personal productivity."

David Winer, now the president of Symantec's Living Videotext division in Mountain View and board member of the overall company, says the decision to merge with a larger company was prompted by a desire for new growth.

"Apple's decision to spin off a software

See SYMANTEC, Page 24

Drafting the Mac?

Army reconsiders its MS-DOS requirement

BY STUART SILVERSTONE
Special to MacWEEK

WASHINGTON — Top government officials are debating the end of the Army's tacit MS-DOS standard, opening the possibility of a frontal Macintosh assault.

The latest tactical move is a message issued by Lt. Gen. T.D. Rogers, the Army's director of information systems for command, control, communications and computers, rescinding draft instructions — that were never approved, according to his staff — to confirm the MS-DOS standard.

Rogers' directive was a response to the announced plans of Lt. Gen. Emmet Paige Jr., commander of the Army information systems command, to standardize Army computer purchases on IBM-based operating systems. The Army's rationale was "to protect its investment by guaranteeing compatibility and interoperability with existing computing equipment," says Lt. Col. John

See ARMY, Page 24

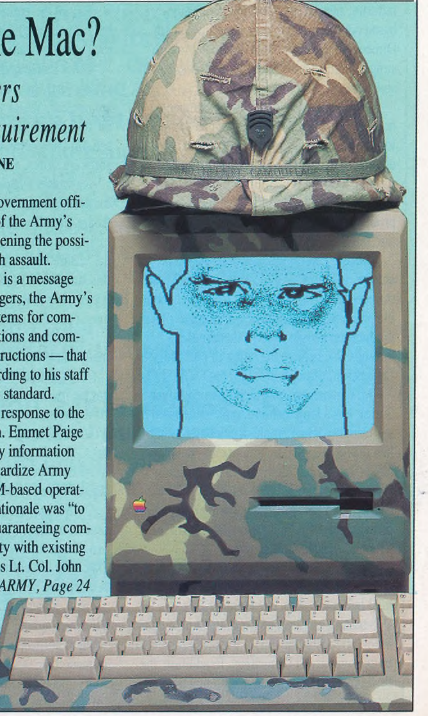


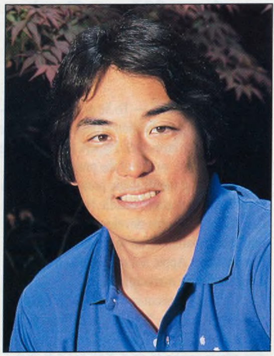
PHOTO: PAUL MORRELL
MAC PAINTED BY:
DAVID SIEGAL

ACIUS opts for grass-roots marketing

BY EMILY KAY
Special to MacWEEK

CUPERTINO, Calif. — Prospective buyers of ACIUS' 4th Dimension programmable database won't be seeing the new package advertised in magazines, but if President Guy Kawasaki has his way, they will hear plenty.

ACIUS is eschewing the traditional marketing tactics used by software vendors like its major competitor, Blyth Software of Canoga Park, Calif. Another expected contender, Ashton-Tate of Torrance, Calif., is one of the biggest advertisers in the microcomputer industry. Instead, the fledgling Cupertino-based company is banking on selling its 4th Dimension programmable database through simple word-of-mouth and its president's massive network of contacts.


PAUL MORRELL

Guy Kawasaki : "The cult will pull us through."

ACIUS, the start-up software company headed by Kawasaki, former Apple Computer Inc. evangelist, has opted not to spend money on advertising space in trade publications. Instead, Kawasaki plans to depend on users and developers to pull his Apple-developed product, which began shipping two weeks ago, into the mainstream.

"Success in the Mac software world is determined by what the community, the cult, the early adopters, the power users feel about the product," Kawasaki says. "You can push [a product] on people or have them pull it through. We believe the cult will pull [4th Dimension] through."

4th Dimension, once code-named Silver Surfer, has a long history. Apple developed the software but when Apple decided not to publish it despite protests from leading developers like Ashton-Tate, the rights to the program reverted to the original developers, ACI of France. ACI and Kawasaki are the only investors in ACIUS, a 10-employee firm of which Kawasaki is president.

To get his message across, Kawasaki corresponds with users through national electronic-mail bulletin boards like CompuServe. He is also trading on his contacts in the Apple community by using the Apple Business Forum to train users on 4th Dimension. In addition, the firm is traveling the more traditional trade-show route, including a stop at the Mac Expo in August. Perhaps ACIUS' most lucrative marketing windfall is the huge amount of free press 4th Dimension has generated, which impresses third-party software developers.

Some in the industry believe that ACIUS will eventually have to turn to more common marketing tactics. "Most of the marketing has already been done for them, given the fact that this is a product that was to be marketed by Apple and actively seeded to them," says Daniel Cheifetz, president of Odesta Corp. in Los Altos, Calif. "I assure you ACIUS will advertise. It can't be avoided if you want to be a real factor in this market."

For longer-term sales, the company is depending on an army of software developers to get the word out. A handful of developers have served as beta sites for 4th Dimension, and Kawasaki boasts that 200 developers eventually will be writing vertical applications for the database and reselling it.

While developers generally raved about the product and the add-on market for it, one developer and beta site, Broadacre Network Inc. of Ann Arbor, Mich., has stopped using 4th Dimension and will not sell it because of technical and marketing problems.

Broadacre, which is also an Apple value-added reseller, found that 4th Dimension allows the use of only one window at a time, a problem President Richard Becker calls a "major flaw."

In addition, Becker says ACIUS will not let VARs sell the entire 4th Dimension product, but only the applications they develop, leaving total sales to dealers.

Other resellers dispute Becker's contention, saying that while ACIUS' distribution plans are unclear, VARs will sell the total system. ACIUS has no direct sales force and plans to sell 4th Dimension through retail dealers and software stores, according to Kawasaki.

Kawasaki's chosen route is the correct one for now but may require changes later, says Adam Green, a database author and analyst in Lexington, Mass. Ashton-Tate's database product, dBase Mac, which is expected to ship later this summer, will provide stiff competition to Kawasaki's stated goal of becoming "the best, most powerful database for any PC."

"Databases take several years to sell no matter how much you put into it," says Green.

The larger and richer Ashton-Tate will target the market more aggressively with a stronger, more visible marketing campaign, which could pay long-term dividends, Green says. "It will still take several years for Ashton-Tate to build its base, but it could be much bigger when it's done."

"4th Dimension coming out at the same time as a dBase Mac from Ashton-Tate will provide an interesting battle," says Ken Wasch, executive director of the Software Publishers Association in Washington.

Still, Kawasaki's name will go far, observers agree. "Guy has an enormous network of contacts and he'll be able to do things in marketing that mere mortals wouldn't dare to try," says Wasch. ■

CONTENTS

NEWS

Tools for developers estimate cost, help write programs 04
New AST scanner allows complete page editing 05
Big Eight firm counts on Macs 10

WORKSTATIONS

Silicon Graphics defends the high end 12

BUSINESS WATCH

Apple advertising flying high despite decreased budget 13

REVIEWS

E-Mail delivers efficiency 19

PEOPLE

A magician with the Macintosh 23

OPINION

John Edwards: Communicating 17
Steve Rosenthal: Visible results 22
Mac the Knife 26

Mac IIs with hard drives hard to find

BY CLAIR WHITMER
MacWEEK Staff

SAN FRANCISCO — Apple computer dealers are experiencing hard-disk-drive drought when they order Macintosh II computers. Though the Macintosh II was first released in May, vendors are still receiving large quantities of the computer barren of internal 40-Mbyte or 80-Mbyte drives.

To sell the machine, many dealers are resorting to buying and installing third-party drives. Others are requesting that customers wait until the drives from Apple are available or are selling the machines only to users with external storage systems.

Apple did not return calls by press time.

The shortage appears to be a result of production problems at Quantum, the OEM manufacturer of the drives for the Mac II. Ventress Hall, vice president of marketing at Quantum, confirms that the company's production has not been meeting the demand.

"Our production quantities are being ramped at a relatively fast pace. Like any other company, we've run into a few hiccups, but we don't have any crises," says Hall. She says Quantum expects to start meeting the production goal in the "very near future."

Meanwhile, 40-Mbyte and 80-Mbyte hard-disk drives are trickling out from Apple, apparently with arbitrary decisions guiding distribution. An informal survey of dealers suggests that dealers who ordered small quantities of Mac IIs, such as one to five units, are receiving what they ordered. Vendors who are dealing in large quantities must cope with hard-disk shortages.

Art Lundquist is president of one of the latter, Clinton Computer of Clinton, Md., which he says is one of the top five Apple dealerships in the country. To fill the shortage, his company is buying drives from other OEMs. Although he says some customers want 100-percent Apple products, "the vast majority don't care as long as there's a reliable drive in there — and a warranty." Besides, he says, the Mac II with a third-party drive is cheaper, selling for $3,769 plus the price of the drive, instead of $5,369.

Steve Hawley, who orders the Mac II for PacTel in Walnut Creek, Calif., disagrees. He recommends that his customers wait until the drives are available from Apple before accepting delivery because customers prefer to have pure Apple and dealing with outside distributors makes servicing too complicated.

But there's a silver lining in the cloud for third-party drive producers. One official, who declined to be named, says there's no doubt the shortage has increased his company's sales.

Allen Taylor, vice president of marketing for CMS Enhancements, is more cautious in his assessment. "There has been a tremendous upward trend in sales in the last few weeks, especially for the 80-Mbyte drive but also for the 40-Mbyte." ■

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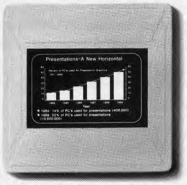

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Tools to develop programs, estimate costs

BY CLIFF LEHMAN
MacWEEK Staff

A trio of new tools to help Macintosh software developers was announced recently by three companies.

One new product helps developers write programs, another helps design and document programs and a third estimates their cost.

Semantic Microsystems of Beaverton, Ore., announced a new software development system, MacScheme+Toolsmith, last month. The company is billing the program as an improvement over its original product, MacScheme. MacScheme+Toolsmith costs $395 and will be available late this month. The program will be shown at August's Mac Expo in Boston.

The firm says the product provides the tools for writing stand-alone applications in Scheme, a dialect of the LISP programming language.

OITC of Melbourne Beach, Fla., announced a software development cost- and schedule-estimation tool for the Mac. The program, MACOMA, is a version of COCOMO (Constructive Cost Model) by TRW Inc.'s Barry Boehm. Available now, the program costs $185.

Users enter parameters in categories like type of development, estimated number of lines of code, number of programmers and schedule concerns, says Tom Shaw, chief engineer at OITC. MACOMO will then give estimates in areas like cost, number of months to complete the project and number of man-hours.

The estimates are based on statistics compiled from hundreds of software development projects, Shaw says.

MacDesigner, from Excel Software is billed as a comprehensive CASE (computer-aided software engineering) development tool for the Macintosh. The program can be used to design and document software systems. It costs $498 and will run on the Mac 512K, Mac Plus, Mac SE or Mac II.

Semantic Microsystems Inc. is located at 4470 S.W. Hall St., Suite 340, Beaverton, Ore. 97005. OITC's mailing address is P.O. Box 73, Melbourne Beach, Fla. 32951. Excel Software's mailing address is P.O. Box 1414, Marshalltown, Iowa 50158. ■

Levco offers fully integrated Macintosh systems

BY JIRI WEISS
MacWEEK Staff

SAN DIEGO — Levco, a manufacturer of accelerator boards for the Macintosh Plus and SE, has recently become the first authorized Apple reseller to offer fully integrated Macintosh systems configured with the company's prodigy boards and software for engineering and desktop publishing, the company says.

Levco, which manufactures Prodigy coprocessor boards for the Mac Plus and SE, convinced Apple to become a value-added reseller primarily because of the popularity of Levco boards, says Marjorie Mowry, Levco's advertising director. "It's an unusual arrangement for a hardware manufacturer … but Apple feels that Prodigy upgrades can sell a lot of SEs with engineers and scientists."

While competitors such as Radius Inc. of Sunnyvale, Calif., focus on selling through retail channels, Levco bundles the upgraded SEs with most desktop-publishing and engineering software. Levco also includes Macintosh hardware such as printers, accessories and peripherals.

Based on a 16 MHz 68020 microprocessor and 1 Mbyte of RAM, Levco's $1,499 Prodigy SE speeds up applications five to 10 times, according to Levco. The board comes with an optional 68881 math coprocessor for $299 and can be expanded to 4 Mbytes.

The company offers intallation, on-site training and support through Levco's 150 sales representatives, Mowry says.

Users of Macintosh 128Ks and 512Ks can trade in their machines for a Prodigy-based system. When purchasing an SE, customers receive a $1,000 discount for trading in their Plus, $800 for a 512Ke, $700 for a 512K and $600 for a 128K Mac.

Levco is located at 6160 Lusk Blvd., Suite C-203, San Diego, Calif. 92121. ■

A Levco custom-configured Macintosh SE workstation. COURTESY LEVCO

SNAPSHOTS

Mac version of Microlytics' Word Finder thesaurus debuts

EAST ROCHESTER, N.Y. — At last, what the Mac world has been waiting for: a stand-alone thesaurus with the William F. Buckley Jr. stamp of approval.

Microlytics Inc. announced last week the introduction of a Macintosh version of its thesaurus, Word Finder. The company will start shipping the $59.95 thesaurus Aug. 1.

In company literature, Buckley, a noted conservative writer and National Review editor says, "Word Finder has changed my life. I never used to use a thesaurus."

Word Finder has 15,000 key words and 220,000 synonyms. Mike Weiner, Microlytics' president, says other computer thesauri claim more synonyms because other companies use a method of counting words that, in effect, triples the word count.

However, Joaquin Desoto, vice president of Deneba Systems Inc. of Miami, says his company's Merriam-Webster's Thesaurus for the Macintosh has accurate word and synonym counts provided by Webster's. Desoto says Deneba's thesaurus has 16,300 distinct words, 45,000 entry points and more than 200,000 synonyms.

Microlytics Inc. is located at 300 Main St., East Rochester, N.Y. 14445.

GDT product links Mac with typewriter, daisywheel printer

BURNABY, British Columbia — Mac users can now print to a daisywheel printer or to a typewriter using Mac Daisy Link from GDT Softworks Inc. The company should start shipping its printer driver and connecting cables this week, allowing users to get letter-quality text for a down-to-earth price.

The driver software installs into the system folder of the Macintosh. A separately sold cable connects to any daisywheel printer or to a typewriter with a serial or parallel interface. Such typewriters are now available from several companies, including IBM, Brother and Smith Corona.

The driver itself is priced at $82 and the serial cable at $22.95.

Daisywheel features include buffer and WYSIWYG support, as well as programming capability for international characters. For a typewriter, a custom font is included, capable of being set to 6 or 8 inches per line is included.

GDT Softworks Inc. is at 2800 Douglas Road, Suite D, Burnaby, British Columbia.

Future Design ships accounts receivable program

FOUNTAIN VALLEY, Calif — Future Design Software plans to start shipping the third module in its accounting series for the Macintosh this week.

The program is the accounts receivable section of the Strictly Business series, which includes a general ledger program and an accounts payable program. The accounts receivable program is integrated with the others, although it can stand alone. They sell for $395 each.

Jane Derrick, a programming consultant to the company, says the program is designed to take full advantage of the Macintosh interface, unlike some accounting programs that have been ported from an MS-DOS environment.

The program offers multiple windows, the ability to define up to 99 terms, discounts and other invoice entries; a full set of keyboard commands; on-screen help and a reference information box for accessing data lists from within an entry field.

Future Design Software is at 17280 New Hope St., Fountain Valley, Calif. 92780.

NuDATA's Giga Cell hard disk offers mass memory

SANTA CLARA, Calif. — Memory gluttons can now begin to satisfy their appetites with the Giga Cell mass-memory hard disks for the Macintosh Plus, SE and II from NuDATA.

Available with 250-, 330- and 660-Mbyte memories, the hard disks are produced not only as storage units but also as part of a memory management package.

Included are the user's choice of a 40-Mbyte 3M tape drive or a 10-Mbyte Verbatim/Kodak removable media drive, similar to a floppy disk. The 250-Mbyte drive sells for $8,250, the 330 for $9,895 and the 660 for $17,950. All three are shipping immediately.

The software with the drives includes the Apple System, initialization formats, printing spoolers for the ImageWriter and LaserWriter printers, a volume-partitioning program, copy utilities, Omni Backup and Disk Express.

Omni Backup copies data incrementally or automatically from any volume to another. Disk Express, which NuDATA has licensed to bundle with these drives, is intended to maximize the speed of disk access by erasing file information after it has been trashed; file recovery programs cannot be used.

NuDATA is at 3206 Scott Blvd., Santa Clara, Calif. 95054.

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New AST scanner allows complete page editing

BY CLIFF LEHMAN
MacWEEK Staff

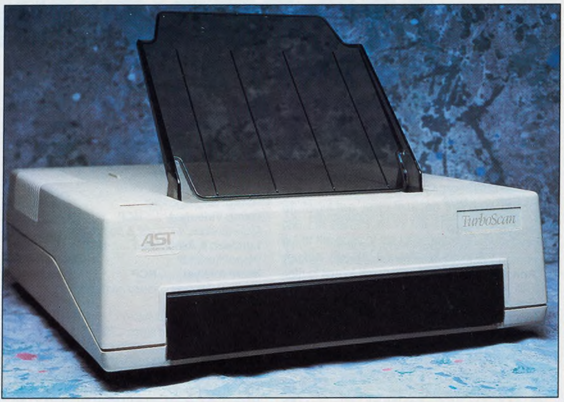
IRVINE, Calif. — AST Research began shipping a new scanner and graphics-editing software package last week that allows Macintosh users to scan and edit a complete page.

The program, SuperScan, and the scanner, TurboScan, are shipping as a Macintosh-compatible package priced at $2,395.

Full-page images can be scanned with SuperScan because of a virtual memory scheme that automatically spools parts of the picture to disk. The process eliminates the need to scan separate pieces of an image and then cut and paste it together.

SuperScan allows Macintosh users to scan and edit full-screen images at 300 dpi. The program also offers a full palette of editing/paint tools that allows users to create graphics without having to switch to a stand-alone paint package.

The program also allows users to open and work on up to three documents at a time. This makes for easier cutting and pasting operations between different scanned images.



COURTESY AST RESEARCH INC

AST says its TurboScan scanner and SuperScan program will allow users to scan and edit an entire page.

TurboScan can be used with the Macintosh 512K, Plus, SE and II. The scanner also is AppleTalk/AppleShare-compatible.

The scanner supports three scanning modes: line art, halftone, and mixed line and halftone. A dozen built-in screening options for halftones are provided. TurboScan accepts documents from 3 inches square to 8.5 inches by 14 inches.

All current TurboScan owners can upgrade to SuperScan software.

AST Research Inc. is located at 2121 Alton Avenue, Irvine, Calif. 92714. ■

SuperMac Technology adds network programs

BY CLIFF LEHMAN
MacWEEK Staff

CUPERTINO, Calif. — SuperMac Technology shipped two new software programs for networked workstation environments recently, one that padlocks sensitive files and another designed to back up AppleShare files on networks.

Sentinel, a data security program, allows users to secure files under two levels. The highest security Sentinel provides is DES (Data Encryption Standards). At this level, the user gets Department of Defense-approved high security. Supercrypt, Sentinel's next level of encryption, is not DES, but the company says it provides a still adequate level of security.

The Supercrypt level takes 0.2 seconds to record 1 Kbyte of data and the DES level 8.3 seconds. The system costs $150.

Network DiskFit, the second new program, solves problems arising for users backing up files on networks with varying access rights. The system is priced at $395 for a server license; the single-user version is priced at $74.95.

Network DiskFit allows AppleShare users to back up server volumes off line to Macintosh disks and maintain set-up information after restoring, the company says.

The program allows users to access a multilaunch backup application from individual workstations.

SuperMac Technology's address is P.O. Box 390725, Mountain View, Calif. 94039. ■

Printware laser printer to be PostScript-compatible

BY MARY FRIEDLAND
Special to MacWEEK

ST. PAUL, Minn. — Leapfrogging 600-dpi resolution and moving laser output closer to the look of typesetting, Printware Inc. recently released a 1,200-dpi-by-600-dpi laser printer that will be PostScript-compatible by early September.

The unit, which has been shipping without PostScript since April, includes a separate printer, Model 720IQ, and processor, Model 1200HD.

"We separated mechanical parts (the printer) from electronics (the processor) for easier maintenance," says Fred Sweeny, Printware's marketing vice president.

The processor comes with a standard 5-Mbyte RAM, with options that include a 20-Mbyte hard disk. The $15,000 20-Mbyte system, with $1,000 to $1,500 added to the price for PostScript compatibility, will cost about $3,000 less than Varityper's VT600 600-dpi laser printer, according to a company spokesman. In benchmark tests, the 720IQ printed eight pages per minute compared with the VT600's 10 pages per minute. The 720IQ supports four colors of toner.

Sweeny says a proprietary design of the printer's marking system opened the way for better resolution. Conventional laser printers drive a spinning, multi-faceted mirror that directs the laser beam to the toner drum. It is difficult and costly to get that kind of mirror to achieve precision beyond 300 dpi, he says.

Printware designed a marking system with a single mirror oscillating in an electromagnetic field. "We are a couple of generations up from the competition," says Sweeny.

A flat paper-feed on the printer further enhances resolution. Normally, paper is fed around a cylinder, which can confuse the toning mechanism.

The technology for Printware's product began at the 3M labs in the early 1980s. Eight million dollars worth of development produced a 300-dpi machine that 3M deemed unprofitable and scrapped. Several of the product's developers, led by Donald Mager, now Printware's president, bought the license to the technology and redesigned the product.

Now, Printware is developing Printscript, a PostScript clone that will be sold as an optional translator card.

Print Three Franchising Corp., a Toronto-based copy shop franchise, ordered 150 720IQs for its outlets in Canada and the United States. According to Jack Banks, company president, the resolution of the 720IQ is very close to typesetting.

Sanjay Sakhuja, vice president of Krishna Copy Center in San Francisco, says he doubts that any laser printer can replace a typesetting machine. "Resolution beyond a certain point doesn't mean anything. It is the photographic process, not the resolution, that makes typesetting look good," he says.

Printware Inc. is located at 1408 Northland Drive, Suite 103, St. Paul, Minn. 55120. ■

CORRECTION

In our July 6 issue, the Cricket Draw review by Russell L. Schnapp on Page 18 was inadvertently cut short. The last paragraph should have read:

If you want to produce slick graphics on a laser printer or typesetter, Cricket Draw is an excellent choice. No other program has its special effects. Just remember to leave a little extra time for printing.

Hardware and software for the business Mac.

SOFTWARE

NCP denotes not copy-protected.
CP denotes copy-protected.

Aegis Development ... NCP	
Doug Clapp's Word Tools	$42.
Affinity Microsystems ... NCP	
Tempo *(power user's macro utility)*	55.
ALSoft ... NCP	
DiskExpress *(maximize disk performance)*	27.
Altsys ... NCP	
FONTastic Plus *(advanced font editor)*	49.
Fontographer *(Laserwriter font editor)*	245.
Ann Arbor ... NCP	
FullPaint *(advanced Paint program)*	53.
Berkeley System Design ... NCP	
Stepping Out *(requires 512k)*	59.
Blyth ... CP	
Omnis 3 Plus *(multi-user available)*	call
Borland International ... NCP	
Sidekick 2.0	59.
Reflex *(information management analysis)*	59.
Turbo Pascal *(HFS compatible)*	59.
BrainPower ... NCP	
Graphidex *(DA graphics organizer)*	69.
Designscope *(electronic circuit design)*	129.
StatView 512+ *(req. external drive, 512k)*	179.
Bravo Technologies ... NCP	
MacCalc *(easy to use spreadsheet)*	85.
CasadyWare ... NCP	
Fluent Fonts *(two-disk set)*	29.
Fluent Laser Fonts *(Vols. 1-15)*	*each* 48.
Central Point Software ... NCP	
Copy II Mac *(includes MacTools)*	20.
Challenger Software ... NCP	
Mac3D *(3D graphics, CAD features)*	119.
Chang Labs ... CP	
Rags to Riches Ledger or Payables	125.
Rags to Riches Receivables *(req. 512k)*	125.
Inventory Control	243.
Professional Billing	243.
Cortland ... CP	
TopDesk *(7 new desk accessories)*	34.
Cricket Software ... NCP	
Statworks *(statistical package)*	77.
Cricket Graph *(multiple windows)*	127.
Cricket Draw *(advanced draw capabilities)*	177.
Data Tailor ... NCP	
Trapeze *(spreadsheet, reqs. 512k)*	173.
DataViz ... NCP	
MacLink Plus *(transfer Mac/IBM data)*	159.
Digital, etc. ... NCP	
Turbo Maccountant *(GL,AP,AR,Payroll)*	262.
Dow Jones ... CP	
Market Manager Plus 1.5	159.
Dubl-Click Software ... NCP	
Calculator Construction Set	39.
World-Class Fonts! *(both Volumes)*	49.
WetPaint Clip Art *(both Volumes)*	49.
Enabling Technologies ... NCP	
Easy3D *(create solid 3D objects)*	89.
Pro 3D *(3D shaded modeling)*	199.
Forethought ... NCP	
FileMaker Plus *(feature-packed database)*	159.
PowerPoint *(professional presentations)*	249.
FWB Software ... NCP	
Hard Disk Backup *(protect hard disk info)*	38.
Hard Disk Partition *(speeds up hard disk)*	38.
Hard Disk Util *(program backup)*	56.
Ideaform ... NCP	
MacLabeler *(print disk labels)*	29.
DiskQuick *(catalog floppies & hard drives)*	29.
Imagine ... NCP	
Smart Alarms *(DA reminder system)*	38.
Industrial Computations ... NCP	
Powermath *(equation solving tool)*	59.
Infosphere ... CP	
LaserServe *(network software)*	65.
MacServe *(network software)*	175.
Innovative Data Design ... NCP	
MacDraft *(new updated version, 512k)*	159.
LaserWare ... CP	
LaserWorks *(requires 512k, Laserwriter)*	$229.
LaserPaint *(requires Mac Plus, Laserwriter)*	375.
Legisoft/Nolo Press ... NCP	
WillWriter 2.0 *(prepare your own will)*	31.
Letraset ... NCP	
Ready,Set,Go!3	249.
Linguist's Software ... NCP	
Tech *(1000 different symbols)*	59.
Foreign language fonts	call
Living Videotext ... NCP	
More *(outlines, windows, & tree charts)*	158.
Lundeen & Associates ... NCP	
WorksPlus Spell	39.
Micro Analyst ... NCP	
Mac Zap *(recover crashed hard disks)*	36.
Microsoft	
Basic Interpreter 3.0 *(NCP)*	64.
Chart 1.02 *(42 chart styles, CP)*	72.
Multiplan 1.1 *(63 col. by 255 rows, CP)*	105.
File 1.05 *(flexible data manager, NCP)*	111.
Basic Compiler 1.0 *(NCP)*	119.
Fortran 2.2 *(compiler, NCP)*	169.
Works 1.0 *(integrated tool, NCP)*	189.
Excel 1.04 *(power spreadsheet, NCP)*	224.
Word 3.0 *(word processor, NCP)*	239.
Mindscape ... CP	
GraphicWorks 1.1 *(newsletters, posters)*	48.
Monogram ... NCP	
Dollars & Sense *(home, small business)*	81.
Odesta ... NCP	
Double Helix *(relational, custom menus)*	275.
Multi-User Helix *(requires 512k)*	439.
OWL International ... NCP	
Guide *(hypertext, free-form info)*	79.
Guide Envelope System	109.
Palantir ... NCP	
inTalk *(communication to emulation)*	99.
PBI Software ... NCP	
HFS Locater *(DA organizer for HFS)*	26.
HD Backup *(supports MFS, HFS)*	29.
Personal Computer Peripherals ... NCP	
HFS Backup	34.
ProVUE Development ... NCP	
OverVUE 2.0 *(power-packed database)*	149.
Satori ... NCP	
BulkMailer *(mailing lists)*	74.
BulkMailer Plus *(up to 90,000 names)*	225.
Legal Billing *(attorneys to accountants)*	385.
Legal Billing II *(full trust accounting)*	575.
Project Billing *(architects to engineers)*	445.
Silicon Beach Software ... NCP	
Silicon Press *(printer utility, 512k)*	41.
SuperPaint *(advanced graphics program)*	54.
Software Discoveries ... NCP	
Record Holder Plus *(data manager)*	41.
Software Ventures ... NCP	
Microphone 1.1 *(includes Glue™)*	119.
Solutions, Inc. ... NCP	
SmartScrap & The Clipper	41.
Glue *(creates "print to disk" capability)*	41.
State of the Art ... CP	
Electric Checkbook *(print checks)*	28.
SuperMac Technology ... NCP	
SuperSpool	39.
Diskfit *(backup & restore utility)*	49.
SuperLaserSpool	99.
Multi-User SuperLaserSpool	259.
Survivor Software ... NCP	
MacMoney *(financial planner)*	42.
Symmetry ... NCP	
Acta 1.2 *(outline/writing desk accessory)*	38.
PictureBase *(clip art manager, 512k)*	44.
T/Maker ... NCP	
ClickArt Personal Graphics, Effects, Publications, Letters Vol. 1 or 2, Holidays, Business Image	*each* 28.
Bombay, Plymouth, or Seville Laser font	46.
Write Now *(word processor)*	104.
Think Technologies ... NCP	
Laserspeed *(Laserwriter utility)*	67.
Lightspeed Pascal *(includes debugger)*	87.
Lightspeed C *(top-rated C Compiler)*	$127.
InBox Starter Kit *(CP)*	235.
InBox Personal Connection *(Mac & PC)*	call
TML Systems ... NCP	
TML Source Code Library	58.
TML Pascal *(compiler, req. 512k)*	68.
TrueBasic ... NCP	
True BASIC *(fast, flexible & portable)*	59.
Algebra 1 or II, Pre-calculus, Trigonometry, 3D Graphics, Discrete Math, Probability, Chippendale utilities & Calculus	*each* 35.
TrueSTAT *(statistics)*	58.
Runtime *(create stand-alone applications)*	59.
William & Macias ... NCP	
myDiskLabeler *(design & print labels)*	24.
myDiskLabeler w/Color *(req. Imagewriter II)*	33.
myDiskLabeler w/Laserwriter option	35.
Working Software ... CP	
(Formerly Greene, Johnson)	
Spellswell *(spelling checker)*	45.

HARDWARE

Manufacturer's minimum limited warranty period is listed after each company name. Some products in their line may have longer warranty periods.

Note: Some hardware items are available in either platinum or beige color. Please specify.

20 Megabyte SCSI Hard Drive	569.
AST Research ... 2 years	
AST Turboscan *(300 dpi scanner)*	1479.
AST 2000 *(20 MB, 20 MB tape)*	1479.
AST 4000 *(74 MB, 60 MB tape)*	3895.
Curtis Manufacturing ... lifetime	
Diamond *(6 outlets)*	29.
Emerald *(6 outlets; 6 ft cord)*	36.
Sapphire *(3 outlets; EMI/RFI filtered)*	47.
Ruby *(6 outlets; EMI/RFI filtered; 6 ft cord)*	55.
Dove Computer ... 90 days	
MacSnap Memory Upgrades	call
Ergotron ... 1 year	
Mouse Cleaner 360°	15.
MacTilt or MacTilt SE	74.
MacBuffer 512k	329.
MacBuffer 1024k	429.
Farallon Computing ... 1 year	
PhoneNET PLUS *(DB-9 or DIN-8)*	39.
Hayes ... 2 years	
Smartcom II *(communications software)*	88.
Smartmodem 1200	299.
Smartmodem 2400	449.
InterBridge *(connect Appletalk networks)*	599.
IOMEGA ... 90 days	
Bernoulli Box *(dual 20 MB w/SCSI)*	1879.
Bernoulli Box *(dual 10 MB, Appletalk)*	call
Kensington ... 1 year	
Appletalk Cable Clips or Connectors	*each* 1.
Mouse Cleaning Kit w/Mouse Pocket	17.
Disk Drive Cleaning Kit	20.
Tilt/Swivel	22.
Universal Copy Stand	24.
Polarizing Filter or Surge Suppressor	34.
System Saver Mac or Control Center	64.
A-B Box *(for the Mac Plus)*	64.
Turbo Mouse	85.
Koala Technologies ... 90 days	
MacVision *(digitizer)*	175.
Migent ... 1 year	
Pocket Modem *(ext. 1200 baud)*	169.
Mirror Technologies ... 1 year	
Magnum 800 External Drive	209.
Magnum 20 Tape Backup	899.
MagNet 40/40 *(40MB, 40MB tape)*	2395.
MagNet 20x *(w/cable)*	779.
MagNet 30x *(w/cable)*	949.
MagNet 40x *(w/cable)*	1299.
MagNet 85x *(w/40MB tape)*	3995.
Network Specialties ... 1 year	
Stretch Screen *(19" monitor)*	1579.
Personal Computer Peripherals ... 1 year	
MacBottom Hard Drive 21MB *(SCSI)*	$865.
MacBottom Hard Drive 45MB *(SCSI)*	1295.
Summagraphics ... 90 days	
MacTablet 12" x 12" *(sketching)*	379.
Systems Control ... 2 years	
MacGard *(surge protection)*	55.
Thunderware ... 90 days	
ThunderScan 4.0 w/Power Port	199.
Western Automation ... 1 year	
DASCH RAMdisk 2000k	459.

DISKS

Double-sided Diskettes

Sony 3½" Disks *(box of 10)*	21.
MAXELL 3½" Disks *(box of 10)*	21.
Fuji 3½" Disks *(box of 10)*	21.
Verbatim 3½" Disks *(box of 10)*	23.
3M 3½" Disks *(box of 10)*	23.

INFORMATION SERVICES

Compuserve	
Compuserve Information Service	24.
Dow Jones	
Dow Jones News/Retrieval Membership Kit	24.

ACCESSORIES

I/O Design	
Imageware II *(Imagewriter II carry case)*	49.
Macinware Plus *(Mac Plus carry case)*	69.
Macinware SE *(Mac SE carry case)*	89.
Kalmar Designs	
Teakwood Roll-top Case *(holds 45 disks)*	14.
Teakwood Roll-top Case *(holds 90 disks)*	21.
Moustrak	
Moustrak Pad *(standard 7" x 9")*	8.
Moustrak Pad *(large 9" x 11")*	9.
Sensible Softworks	
High Quality "MacAttire" dust covers	7-17.

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- We accept VISA and MASTERCARD.
- No surcharge added for credit card orders.
- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on the shipment(s) that complete the order.
- No sales tax.
- All U.S. shipments insured; no additional charge.
- APO/FPO orders usually shipped 1st Class Mail.
- Allow 1 week for personal and company checks to clear.
- UPS Next-Day-Air available.
- COD max. $1000. Cash or certified check.
- 120 day limited warranty on all products.*
- To order, call us anytime Monday thru Friday 9:00 to 9:00, or Saturday 9:00 to 5:30. You can call our business offices at 603/446-7711 Monday through Friday 9:00 to 5:30.

SHIPPING

Note: Accounts on net terms pay actual shipping. **Continental US:** For printers and hard drives add 2% for UPS ground shipping (call for UPS Blue or UPS Next-Day-Air). For all other items, add $2 per order to cover UPS shipping. We will automatically use UPS 2nd-Day-Air at no extra charge if you are more than 2 days from us by UPS ground. **Hawaii:** For printers and hard drives, actual UPS Blue charge will be added. For all other items, add $2 per order. **Alaska and Outside Continental US:** Call 603/446-7711 for information.

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Max Out

Corporate image.

Way back when, in the peaceful little village of Marlow, NH (pop. 552), Lucian and Lucius Tinker laid the foundation for our Macintosh mail order megalopoly. Sure, they thought a mouse was something you set traps for, and chips came from buffaloes, but when it came to running a business, Lucian and Lucius knew the secrets. Like taking the time to answer strangers' questions. And dealing fairly with every customer. And always delivering on time.

At MacConnection, we do business the same way. We are the leading mail order supplier of Macintosh add-ons and software. Our sales people know what works, how it works, and how to make it work better. We offer competitive prices combined with complete product support. But, most of all, we have a reputation for giving the kind of personal service that many people thought went out of style with starched collars. So, next time you need to perk your Mac up a little, give us a call.

The True, the whole True...

From the people who gave you BASIC to begin with, comes *True BASIC.* It's the flexible structured programming version of BASIC with a full range of control libraries. And, if you've been lusting after this little language, now is the time to take the plunge. Because we've got two, that's two, two True deals in one. For starters, we've cut a monster chunk out of the price of the basic package. And, if you buy *True BASIC,* we'll sell you either or both of two of the most popular optional libraries, *Calculus* and *3D Graphics* for only $25. These programs are not copy-protected.

True BASIC **$59**

Calculus (REG. $35) .... *with purchase of True BASIC* **$25**

3D Graphics (REG. $35) .... *with purchase of True BASIC* **$25**

Be presentable.

There are lots of great programs for creating graphs, time charts, cash flow projections, written strategies, etc. but turning them into effective presentations can be a bear.

PowerPoint makes it easy. It integrates smoothly with other programs, letting you pull together all the text and graphics you need for overhead projections. And, it has powerful design capabilities built-in so you end up with one coherent collection of charts and copy. Just print them on acetate or turn them into slides and your next presentation will be eminently presentable.

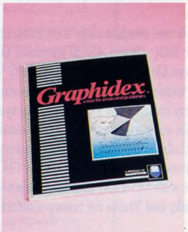
Forethought
PowerPoint (not copy-protected) **$249**

Pass the graphics!

With *Glue*, you can easily share information with anyone *even if they don't have the same software you used to create the document.* Just "print to disk" with *Glue*. Share the file via a network, file server, or diskette. Then the other person can use *Glue* to read the print file, without even knowing how you created it. No more duplicating software libraries. No more learning whole programs just to read someone else's files.

Solutions, Inc.
Glue (not copy-protected) .. **$41**

Build your own image bank.



Wouldn't it be nice to have all your favorite format graphics in one convenient location, instead of pawing through all those disks trying to remember where you left them? Well, get *Graphidex*. You can put up to 10,000 MacPaint or MacDraw pictures into the *Graphidex* index. Then you can retrieve, preview, edit, and paste them whenever and wherever you like, without touching the originals.

BrainPower
Graphidex (not copy-protected)..... **$69**

Micro bookkeeper.

If you're running a small or mid-size business, turn the books over to *Turbo Maccountant.* It combines general ledger, accounts receivable, accounts payable, invoicing, and payroll into one easy-to-use, fully-integrated program. You can keep all ledgers open simultaneously, moving back and forth between them as often as you like. The program is also compatible with most major business programs, so you can transfer files directly to your spreadsheet or word processor.

Digital, Etc.
Turbo Maccountant (not copy-protected)............ **$262**

Back Up!

DiskFit is a clever little backup/disk optimizing utility. It greatly simplifies the process of backing up your data from your hard disk to floppies or Bernoulli cartridges. And it also does some serious optimizing. Instead of making a completely new copy of every changed file, it makes sure your backup only grows as your files grow. *DiskFit* also stores files in standard Macintosh format, and can be used to optimize storage on your hard disk for faster access.

SuperMac Technology
DiskFit (not copy-protected).... **$49**

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AI environments for Mac II combined

BY JIRI WEISS
MacWEEK Staff

SEATTLE — ExperTelligence Inc. is demonstrating an integrated artificial intelligence development environment for the Macintosh II at the American Association for Artificial Intelligence conference here this week.

The Santa Barbara, Calif.-based company has brought together for the first time its LISP implementation, ExperCommon LISP; its graphical interface builder, ExperInterface Builder; and its inference engine, ExperCommon OPS5, says John Forge, the company's executive vice president. LISP is a primary progamming language for AI.

The $395 ExperInterface Builder allows users to create a visual interface for an expert system or any other application by drawing it on the screen, the company says.

Users build a working prototype interface by dragging the elements, such as scroll bars, arrows, icons and buttons, into place from a toolbox at the bottom of the screen. Users also can create drawings in MacDraw or MacPaint to add to their interface. Menus are set up with a separate procedure in the program.

Working with ExperInterface Builder is similar to using MacDraw except the end result is a working, rather than a static, representation of the interface, the company says.

"It's a tool for front-to-back programming," says Denison Bollay, the company president. "A user can program a whole interface and then turn it over to a programmer to fill in underneath."

Each element of the interface can be associated with a LISP function that will be called when the application is run, according to the company. The underlying application can be written in C, Pascal or assembly language, but programmers must know some LISP to hook up the application to the interface.

ExperInterface Builder, which is already shipping, is designed to work with the company's ExperCommon OPS5 expert system shell.

ExperCommon OPS5 is an implementation of the most widely used inference engine, OPS5, originally developed at Carnegie-Mellon University in Pittsburgh, says Forge.

Because ExperInterface Builder is written in ExperCommon LISP, users must buy the company's $995 language compiler ($1,195 for the Mac II) and $495 File Compiler.

The applications created with the interface programs do not, however, require the user to own LISP.

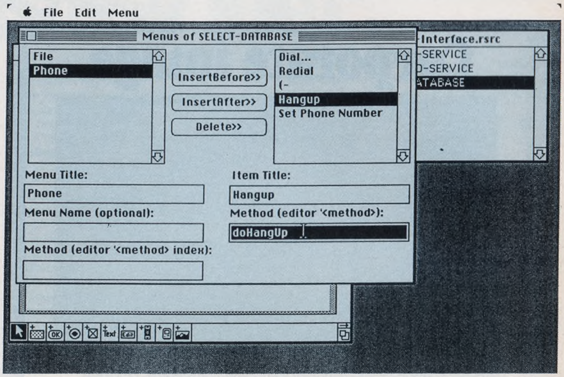
The company also will introduce three other products to start shipping in September: Le_LISP, a dialect of LISP; G-Logis, an object-oriented development environment for expert systems written in ExperCommon LISP and G-Base, a database shell based on G-Logis.

Le_LISP allows applications written in the language to be run without modification on the Mac, IBM PC and Sun, the company says. Le _LISP will retail for around $250, Forge says.

G-Logis is a combination of ExperCommon LISP and Prolog inference engine. It provides an alternative for using ExperCommon OPS5, Forge says. G-Logis will ship for $1,000 to $2,000.

G-Base is a database shell based on G-Logis. With G-Base, users will be able to design databases without having to go into the level of detail in programming required by database languages such as dBase III, says Forge.

ExperTelligence Inc. is located at 559 San Ysidro Road, Santa Barbara, Calif. 93108. ■



Menu Title: Phone
Menu Name (optional):
Method (editor '<method> index):
Item Title: Hangup
Method (editor '<method>): doHangUp

With ExperInterface Builder, users create menus and set up the graphical elements of an interface with the toolbox shown at the bottom of the illustration. The AI development environment will debut this week.

TI debuts artificial intelligence workstations

BY CLAIR WHITMER
MacWEEK Staff

AUSTIN, Texas — The announcement of a new series of workstations from Texas Instruments may be good news for Macintosh II users interested in artificial intelligence applications.

The new machines, called the Explorer II and the Explorer II LX, use a LISP chip with high-end artificial intelligence capabilities.

The LX model also incorporates the Motorola 68020 processor with a NuBus configuration. It will run LISP applications and TI's version of the UNIX operating system.

Apple Computer Inc. currently is licensing NuBus from TI for use in the Macintosh II. If the LISP chip/68020 processor were to be made available for the Mac II, it would be a "relatively inexpensive artificial intelligence delivery vehicle," according to Neil McGlone, a TI spokesman.

"Technically, it is feasible to port the system to the Mac II," says McGlone.

TI would not confirm that it is negotiating with Apple about that possibility, but the company says it is considering signing an OEM or cooperative-marketing agreement with unspecified hardware companies.

"We are talking with several of the major computer vendors about the possibility of an add-in board, but it's just in its exploratory phases right now," McGlone says.

Explorer machines now come bundled with TI's recently introduced software, Release 3.0, for developing and delivering knowledge-based systems and advanced symbolic processing applications as well as making prototypes of complex software systems. Release 3.0 also supports IBM's System Network Architecture, Digital Equipment Corp.'s Decnet, TCP/IP and Network File System.

Despite its high-end capabilities, it is unclear how large a market exists for the Explorer II systems, which sell for $49,900 to $99,900. McGlone says the research and university-level market has "slowed down," but TI has found a niche in the Fortune 1,000 group of aerospace, defense and manufacturing companies.

He says the original Explorer workstation has an installed base of 2,000 users who are potential buyers of the upgrade board, priced at $25,000.

Harvey Newquist, industry analyst for DM Data in Scottsdale, Ariz., says the number of potential buyers is probably closer to 600. If 2,000 Explorer machines exist, Newquist says, about half of those must be within TI itself.

Because the new Explorer machines are designed to run both LISP and UNIX, their introduction may be an effort by TI to find a larger market. However, Newquist says the new Explorer is "essentially a LISP machine that they're trying to make into a more generalized machine."

Newquist says a licensing agreement between TI and Apple on the new system is a possibility. ■

Emulator to allow Mac graphic interface with mainframes

HOUSTON — Macintosh users will be able to build the familiar Mac graphic interface for mainframe programs beginning in September when Future Soft Engineering Inc. ships Version 3.0 of its $195 inTalk terminal emulation program.

InTalk can emulate eight terminals, including IBM 3101; IBM's ASCII terminal; Digital Equipment Corp.'s VT-100; and ADDS Viewpoint, a terminal used with NCR's systems and computers running the Pick operating system.

InTalk supports six types of file transferring, including Xmodem for file transfers with most microcomputers; CrossTalk for file transfers with MS-DOS micros running CrossTalk; and Yterm for binary tranfers with IBM and DEC mainframes.

Version 3.0 adds graphic capabilities to inTalk, says Tim Farrell, company president. Users can now define dialog boxes and icons. Users build mainframe interfaces with a script language without altering the mainframe application.

InTalk comes with scripts for use with CompuServe, The Source, Easylink, MCI Mail, and Dow Jones & DialCom networks.

The program includes a built-in text editor, support for MNP error-correcting modems and PEP high-speed modems.

Future Soft Engineering Inc. is located at 12777 Jones Road, Suite 300, Houston 77070. ■

Imagine Software calendar permits multiple user access

FAIRFAX, Calif. — Users of networked Macintoshes can now check each other's appointment books with a multi-user version of an appointment calendar Desk Accessory from Imagine Software.

Multi-User Appointment Diary with Smart Alarms, which started shipping recently, allows any number of users to access, read or write to any other calendar on the network, according to the company.

Users on AppleShare can decide on three levels of security. They can allow everyone to read and write to files, limit access by groups or keep appointment books private. The package also will run on TOPS and MacServe with the security provided by those networks.

The program allows users to review a particular day and time to set up a meeting. A company spokeswoman says, "You can pull up someone's schedule for the day and the rest of the people you look at come up on the same date."

To protect user privacy, Smart Alarms, a personal reminder system included in the package, remains single-user. Smart Alarms allows users up to 1,600 reminders that flash on the screen at a designated time. Users can set variable recurring intervals and advanced warnings. The program even has a procrastination feature for putting off messages.

Multi-User Appointment Diary retails for $149.95 plus $10 per node.

Imagine Software is located at 19 Bolinas Road, Fairfax, Calif. 94930. ■

Banking on the Macintosh

Financial institutions begin to consider options to the PC

BY CLAIR WHITMER
MacWEEK Staff

SAN FRANCISCO — Leslie Fiering, manager of advanced technology for the Bankers' Trust of New York, has talked to her employer many times about introducing Macintoshes to the bank.

It has not done her any good.

Although Macs continue their steady penetration of the corporate sector, they have had surprisingly limited success in the world of numbers-based companies, of which the archetype is the bank. In fact, the Macintosh has had its smallest impact as a personal computer within the banking world.

Precise figures are not yet available, but a study of computers in banking is currently under way at the West Coast division of the Federal Depository Insurance Corp. (FDIC). Review examiner Bob Nelson, who has entered the data for more than half the list, sees "lots of IBMs, some NCRs, some DECs, a few Texas Instruments, some others, but not a single Macintosh yet."

Nelson says this does not mean there are no Macs in banks, but that they are probably being used as stand-alone machines, not to run systemwide applications.

Partly this is a matter of timing. The Macintosh was not really a viable business machine during the era when the largest banks were automating. When smaller banks computerized, they followed the example of the industry leaders. By the time the power of the Mac had been demonstrated in a business environment, financial institutions had invested a vault full of cash in other systems, and a tremendous body of data had been encoded in DOS format.

The Federal Reserve Bank also put in its 2 cents in favor of the IBM PC. The bank regulates wire transfers of cash from bank to bank through its Federal Reserve Wire Transfers System. According to Jim Young, executive data processing officer of the Los Angeles State Banking Department, the Fed requires each bank in the system to have an IBM PC with a special security chip, either sold or leased by the Fed. Since most licensed banks must belong to the transfer system to be viable, Young says the hardware requirement amounts to an endorsement.

Even when the Macintosh finally arrived on the business scene, the Mac's lack of financial software, number-crunching power and connectivity with pre-existing DOS systems provided severe barriers to its acceptance in the financial community.

True, pockets of Macintoshes do exist in many banks, on top of bank officers' desks, for example. Or a secretary may use one for correspondence. But it is rare to find Macs used for bankwide computation and data storage.

There is at least one such installation, however, and it is a tremendous success. Washington state's largest bank, Seafirst, a wholly owned subsidiary of Bank of America with about $11 billion in assets, has adopted the Mac as its computing standard. Altogether, Seafirst is running close to 3,000 Macs, serving 170 locations. Most of them are Mac Pluses or 512K Enhanced machines, although the company is evaluating the Mac SE and the Mac II.

In addition to functioning as stand-alone word processors and presentation tools, Seafirst uses its Macs as dumb terminals for an IBM mainframe, accessing the larger computer through the MacTerminal emulation program. MacTerminal emulates a 3278 terminal with a pull-down, Mac-style menu to replace the missing function keys.

Although the tellers use specialized Honeywell terminals, networked Macintoshes enter the scene on the operational side of the bank, where they are used to handle account inquiries, make deposits and withdrawals, set up new accounts, stop payments and make loan calculations. The Macs also are used as stand-alone machines, running a long list of familiar, Seafirst-approved software: Microsoft's Excel, Omnis Plus from Blythe Software, MacProject and word-processing programs like MacWrite and Microsoft Word.

GEOFF MANASSE

"If you were going to put intelligence out there, you'd be foolish not to look at the Mac."

WILLIAM BROWNE
Vice president, Seafirst Bank

But Seafirst is moving beyond packaged programming. "We don't buy a lot of third-party software," says William Browne, vice president and manager of Seafirst's systems services division. "We're developing most of it internally."

The bank's programmers are busy writing what they term "cooperative-processing software" to make it easier for Macintosh terminal users to access downloaded mainframe data through a simple Mac-like interface and to provide windowing between different categories of data by having the machines do all the communication and translation.

Cooperative processing is used at Seafirst in budget planning, for example. The president can plan the financial outlook for the upcoming year and pass it down as mainframe data to a vice president working on a Mac. The vice president can then convert the information into an Excel spreadsheet, make changes and send it back to the boss through the mainframe.

The bank's electronic mail system also runs on the mainframe, but since many employees who are not very familiar with computers have to use the system, Seafirst's programmers have developed a personalized interface for it.

"This way, it's simpler and it anticipates the user's needs," says Browne.

Seafirst's programmers use C to write programs, combining them with templates drawn from standard programs like Excel, and individualize them for each bank. This way, if employees at the Spokane branch want to be reminded of their customers' birthdays, a customized program can provide the information.

Tim Turnpaugh, executive vice president of Seafirst's Operations Group, is the man who made the decision to go Macintosh in 1984, partly due to a suggestion from Steve Jobs. At that time, the bank was replacing its obsolete Honeywell mainframe with an IBM and had to choose terminals to go with it.

Many factors made the Mac attractive, but it was the financial bottom line that had the biggest impact on Seafirst's decision. Buying large numbers of terminals with no processing power was not cost-effective, and the Macintosh was significantly cheaper than the PC.

Again, timing was important. The bank was looking for a new system at just the time Apple was making a strong push to break into the business market. The bank declines to cite hard figures, but it clearly received a good price.

Fond of metaphors, Turnpaugh compares the system he helped set up to a car, an Olympic athlete and a Japanese garden in one conversation. "Beauty through simplicity" is the system's motto, he says.

In addition to the machine's Zen-like qualities, Turnpaugh is very impressed with its sturdiness in a demanding working environment.

He has given a lot of thought to the role computers should play in a corporate world. "The other [computers] can complicate life to the extent that you feel like you need a Ph.D. to figure the thing out. When people ask about personal computers in business, they want to know, 'What's it do for me?' I want my machine to be as unobtrusive as a phone."

In response to other bankers' complaints about the lack of financial application programs for the Mac, Turnpaugh says, "As far as I'm concerned, Excel is equal to or superior to any other spreadsheet in the universe. When we started there was zero software. We just made a bet that it would come. And it did."

Surprisingly, however, the success of Seafirst's system and the enthusiasm the bank's employees have for the Mac has done little to move the Macintosh into the banking community. Even Bank of America, Seafirst's owner, remains heavily committed to IBM despite the fact that Louis Mertes, executive vice president for Bank of America, was a high-level executive at Seafirst during the Mac "takeover." Mertes was not available for comment. BofA's communications representative refused comment as well on this or anything having to do with specific brands of computers because of "non-disclosure agreements."

Bankers' reluctance to move toward Macs may be due as much to psychological factors as to objective evaluations of the machine, according to Sam Haggerty-Hammond, assistant vice president of risk management for United Savings Bank of San Francisco. "The biggest reason banks go for DOS systems is they start by hiring a computer expert," he says, "and that person is going to resent using a system like Macs that he can't get into."

At United Savings, four out of 250 employees were hired exclusively to care for the computers. These people, Haggerty-Hammond says, prefer open operating systems because they provide a forum for their expertise.

"A lot of them get frustrated by being in this [Mac] shell, this graphic menu. It's a matter of personal frustration, and it's good business sense to have something you can adapt and change. Without that, it takes all the fun and the pride out of it," he says. "And the money. It can put them out of a job because you don't need someone who's an expert."

Apple has done little to change this mindset. Even after the introduction of the Mac II, considered by many to be the Mac with the most potential in the financial world, Apple did not even make an appearance at the American Bankers Association National Operations and Automation Conference in June.

This was a deliberate choice by the firm, according to Apple spokeswoman Ronnie Sarmanian. "We choose just a few [conferences] a year. We didn't go to COMDEX either. We've become more specific in where we're appearing," she says. She points at desktop publishing and graphics-based applications as the primary target of Macintosh marketing.

Cheri Holtermann, manager of personal computer services for Citicorp Bank, disagrees. "They're going to be used [in banks] a lot more," she says. "For a long time, there wasn't any business software, but now the software is there, the laser printing is there. People will be turning to the Mac more and more. We're not going throw money to IBM when their machines aren't superior any more. And Apple provides better service. As the products come out, they just keep giving us more reason to justify turning to the Mac."

As Browne says: "If you were going to put intelligence out there, you'd be foolish not to look at the Mac."■

Big Eight firm counts on Macintoshes

BY STEVE CUMMINGS
Special to MacWEEK

When the very first Macintosh II rolled off the assembly line, Apple lost no time in presenting the coveted machine to Dick Webb, the partner in charge of audit technology at Peat Marwick Main & Co.'s Montvale, N.J., executive offices.

The reason Webb rated the first Mac II may have something to do with Peat Marwick Main's other Macs, all 5,000-plus of them.

Although that first Mac II currently sees duty at his home, it is Webb's professional role at the Big Eight accounting firm that motivated Apple's solicitude. While other American businesses have begun only recently to warm to the Macintosh, Peat Marwick Main committed itself to Apple's flagship computer even before the Mac was publicly introduced, a decision that underlines the very close "special relationship" between Peat Marwick and Apple.

Industry observers suggest Peat Marwick has strongly influenced many of the most familiar Mac elements, including the very notion of the slotted, expandable Macintosh.

"In late 1980, I was given the assignment to automate those aspects of the audit services that made sense [to automate]," Webb says. "We began with an analysis of the things that needed doing, and then we tried to determine which ones could be done via the computer."

Once the tasks were listed, the firm began searching for hardware that could do them. A field of 28 microcomputer vendors was eventually narrowed to IBM, Hewlett-Packard and Apple. The decision to adopt the Macintosh as the audit service's standard microcomputer was made in May 1982, two years before Apple publicly introduced the machine.

"We picked the Macintosh on the basis of Apple's specifications and on seeing the Lisa in operation," says Webb. "Ease-of-use was a very high priority on our list, and the windowing technology they showed us was a major factor, too. On the day that Apple announced the Mac, we announced that we were going to buy 2,500 of them."

Thanks to Peat Marwick's early enthusiasm for the Mac, says Dick Trueblood, audit partner at Peat Marwick's Boston office, "Apple was willing to give us access to the hardware and software as they were developing it."

What is more, the flow has gone both ways. For one thing, Apple has become a formal client of Peat Marwick. For another, says Trueblood, many suggestions made by Peat Marwick have been incorporated into the Macintosh and its system software.

More recently, according to John Cole, data processing and technical support supervisor at Peat Marwick's San Francisco office, the decision to "open" the Mac to add-in boards was based, in part, on a marketing recommendation made by Peat Marwick's consulting department. In addition, Apple's choice of the traditional Macintosh size and shape for the new SE model may have been influenced by Peat Marwick's requirements for portability.

According to Webb, the vast majority of Peat Marwick's 5,000 Macintoshes are stationed in the field where company auditors pore over balance sheets at clients' offices. The Mac's computing power, easy operation and compact size make it the ideal microcomputer for the well-traveled field auditors.

The combination of the Macintosh, a judicious selection of off-the-shelf software — MacWrite for word processing, Excel for spreadsheet analysis, Microsoft File for simple flat-file databases and MacTerminal for telecommunications — and a set of homegrown accounting applications tailored to the auditors' needs, has given the firm a clear productivity and competitive edge, Webb says.

One of an auditor's main functions is reconciling figures in a client's accounts, and here the Macintosh has repeatedly proven itself, says Webb. "During the course of an audit, it's not unusual to find an inconsistency in the books that the client doesn't know about and can't explain immediately. Before, tracking down one of these things often turned into a major project, but the Mac has made it relatively easy to go in and do the analysis quickly."

William Parent, supervising senior auditor at Peat Marwick's Boston office, uses the Macintosh extensively in the field. "The difference, once the Mac is integrated into the audit function, is that the next time we go back to a client, we no longer have to set up the balance sheets every time, and we can just input the new year's information. Even that is a tedious task, but a lot less than before."

> "On the day that Apple announced the Mac, we announced we were going to buy 2,500 of them."
>
> **DICK WEBB**
> **Peat Marwick Main & Co.**

BARBARA BEIRNE

In Parent's experience, most clients are skeptical at first, but quickly become enthusiastic about the Macintosh. "The client I'm working with now is a company that uses IBM PCs and hard drives, and we still have the older Mac Pluses. They thought of the Mac as a toy and that it would be too slow without a hard drive, but now they're really quite impressed we can get so much done so quickly."

Peat Marwick's Macintosh success story was no accident, but rather the result of a carefully planned and implemented microcomputer strategy in which software was a crucial factor. After initial doubts, the plan's architects decided that off-the-shelf programs would be acceptable for standard business applications, but for special auditing tasks, the firm had no choice but to write its own applications. Fortunately, because Peat Marwick had access to Mac prototypes and developers' tools, "On the day they announced the Mac, we already had in-house programs running on it," Trueblood says.

For its first custom software project, the firm computerized a fundamental component of an audit, the Financial Statement Subsystem, in which information from the client's general ledger is extracted and integrated.

Webb says, "We took a crawl-walk-run approach. We wanted to make the first application something that was already very familiar to our people so we would only have to get them over the hurdle of learning to use the computer."

Auditors who used the new system were convinced quickly of its superiority, and this success fostered more development. Currently, Peat Marwick's custom software library includes two versions of the Financial Statement Subsystem. Another program, SEADOC, analyzes the client's accounting procedures and detects those that may lead to erroneous financial statements.

There also are custom statistical sampling programs that help select representative entries from clients' records. The most recent addition to the collection is the "2190," a program that functions as a friendly front end to help users extract accounting data from IBM mainframes.

Of course, Macs are not the only computers owned by Peat Marwick Main, although companywide there are about five Macs per PC. The firm's tax service has settled on IBM PCs; Wang minicomputers are installed at each branch office; and the Montvale, N.J., headquarters has an IBM 3081 mainframe. However, because most of the Macs are used in client offices, the field auditors' major connectivity need is to get at files on the client's mainframe.

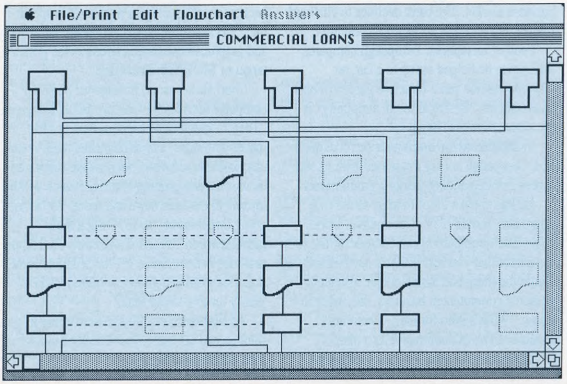
This is where the in-house 2190 software shines, says Trueblood. Running on the Mac, the package displays a series of screen forms on which the auditor defines the desired mainframe information. Based on these instructions, the 2190 software generates a COBOL program, which is uploaded and run on the mainframe, extracting the information.

"It's meant to give computer illiterates access to some real computer power for things like record testing and selecting individual accounts," Trueblood says. "You can do most of your program editing on the Mac, but you run the process on the mainframe and then download the report and print it locally."

Auditor William Parent recently used the 2190 package. "I was at a $400-million financial institution. They gave us a set of tapes with all their mortgage loans, consumer loans and deposit accounts, and we sent those tapes down to our New Jersey mainframe. We used the 2190 system to produce all the reports and confirmation statements that are sent to the depositors and borrowers. The 2190 programs were then downloaded from the mainframe back onto a Mac disk, so when next year's audit team goes in, all they will have to do is update on the Mac and run them again. The cost savings will be substantial."

With all of Peat Marwick Main's enthusiasm for the Mac in a full-scale corporate environment, it is no wonder that the first Mac II was bestowed on Dick Webb. Apple says it hopes it can translate the example of this model Macintosh corporation into broader corporate sales, but for Peat Marwick Main, the Macintosh has already proven its worth. ■

Peat Marwick's accountants use a custom program, SEADOC, to prepare flowcharts of clients' systems.



A rainbow with 262,144 colors

Modern Artist supports Mac's color display limit

BY ABIGAIL CHRISTOPHER
MacWEEK Staff

PORTLAND, Ore. — Computer Friends Inc. will announce paint software and Genlock support for the Macintosh II at SIGGRAPH, which will be held in Anaheim, Calif., July 27 through 31.

Modern Artist is one of the first Macintosh II-compatible programs that supports the computer's 256-color display limit.

The program's "palette manager" includes 262,144 colors.

With Modern Artist, users can import MacPaint files and add color. Modern Artist also includes automatic color blending, watercolor and dry-color effects.

According to Dan Moss, developer of the program, "Computer graphics can be mixed with live video using Modern Artist." The program is priced at $149.

The Genlock card for the Macintosh II will support both standard television signals — NTSC and composite — enabling the user to dump images created on a Macintosh II to media such as a videocassette recorder, a Sony Trinitron monitor and a large-screen video projector.

Genlock cards are necessary because "the Macintosh II video card runs at non-standard frequencies and does not support NTSC without the Genlock card," says Moss.

Toby Ferrand, developer of the Macintosh II video card, says that "Apple is very interested in connectivity and standard video support."

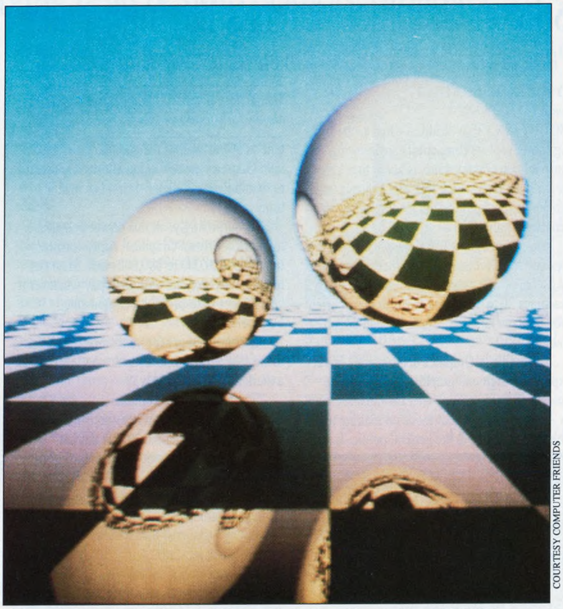
Ferrand says Genlock cards for the Macintosh II will allow users to output standard NTSC video and encode a single signal, satisfying U.S. television standards.

The Genlock card has not been priced yet.

Computer Friends also has developed drivers for the Shinko 200-dpi color thermal-transfer printers that support the entire Macintosh family.

The printers support either an 8.5-by-11-inch size or both 11-by-17-inch and 8.5-by-11-inch sizes and cost $4,500 and $8,990, respectively.

Computer Friends is located at 14250 NW Science Park Drive, Portland, Ore. 97229. ■



COURTESY COMPUTER FRIENDS

Modern Artist, Computer Friends' new paint program for the Mac, will be unveiled at SIGGRAPH.

Micah Storage releases Mac SE hard disk

NEWARK, Del. — Micah Storage Systems has joined the ranks of companies with internal hard disks for all Macintosh computers from the 512K to the Mac II.

Micah's internal drive differs from others in that it can be installed in the SE in addition to the 20-Mbyte Apple drive.

According to Micah representative Daniel de la Torre, the drives for the SE are already back-ordered, shipments having started June 15. He says the company expects a similar reaction for the Mac II drives, although there are not enough machines on the market yet to be sure.

Micah Storage also plans to release a video system for the Mac SE and II that would allow continuous display of pages on two monitors. The SE model should be shown at the July 15 ComputerLand Expo in Montreal and the Mac II version at the Boston Mac Expo in August. Both versions include a plug-in card, software and Micah large-screen monitors.

The system can display two 8.5-by-11-inch pages side by side on two large-screen monitors. The mouse can be moved automatically between the two screens. Both images would be WYSIWYG with the standard Macintosh resolution of 72 pixels per inch. The capabilities include being able to see and modify two facing tabloid-size pages at one time.

The monitors' resolution is programmable from 768 by 1,024 pixels to 2,370 by 1,024 pixels. Modes and refresh rates also are programmable for the screens.

The video cards will work with 20 other multisync monitors, although not with Radius' machines. However, the programmable functions of the software are compatible only with the three Micah monitors. Tentative retail prices for the system are $1,995 for a 21-inch monitor and one video card, or $2,595 for two 21-inch monitors and a video card.

Micah Storage's first products off the line are internal and external SCSI hard drives. The drives, the 30XT, 40XT and 45XT, are compatible with the Macintosh line from the 512Ke on up.

The MicahDrive AT line, with either 20 or 45 Mbytes of storage, installs internally in the Mac 512, 512Ke, Plus, SE and II. The drives have volume-partitioning software, password protection, a floppy backup program, utility software, fan cooling and rubber shock mounts.

The drive name specifies the storage capacity, and the data-transfer rate varies from 5 to 7.5 Mbits per second. All but the 20AT are based on Run Length Limited (RLL) technology, designed to lay down more data per square inch than MFM and produce a faster access time. The 40XT is a tape storage drive with a transfer rate of 21 Kbytes per second.

Micah Storage should not be confused with Micah Distribution of Hayward, Calif. An unaffiliated subsidiary of IDT Systems Inc., Micah Storage was formed in April and signed a licensing agreement with Micah Distribution for the use of the name.

Micah Distribution filed Chapter 11 in November 1986, shutting down production and service support. Micah Storage has no staff connection, but it will service the older company's products and offer a new warranty. ■

A gem of an E-mail system uses hypertext

BY JIRI WEISS
MacWEEK Staff

ANN ARBOR, Mich. — Imagine an electronic-mail system that can be used to send not just text documents but also spreadsheets, graphics and even computer animation.

With hypertext you or the person at the other end could attach comments. Animation would rotate complex objects such as hardware designs. Voiced comments could be included and played back with the click of a mouse. Ordinary tables actually would be working spreadsheets allowing your colleagues to manipulate the numbers. Even video and holograms could be included some day.

The University of Michigan, along with 13 other universities, is testing a prototype of such a system that soon may be used by scientists to submit funding proposals to the National Science Foundation.

The electronic-mail system, called DIAMOND, is being developed as part of a three-year, $6 million NSF project, the Experimental Research in Electronic Submission (EXPRES).

DIAMOND, developed at Bolt, Berenek and Newman Laboratories in Cambridge, Mass., currently runs on the Sun 3 workstation, but it will be ported under X-Windows 11 to the MicroVAX 2000, Apollo Domain workstations, the IBM RT and later the Macintosh II, according to Daniel Atkins, associate dean of engineering at the University of Michigan and head of the project for the university.

"Anything that will run X-Windows 11 will run it," says Richard Olson, manager of advanced projects at the University of California at Berkeley, which is participating in EXPRES.

DIAMOND conforms to X.400, a national standard format for multimedia messages, and runs on top of the networking protocol TCP/IP, according to Olson. DIAMOND limits the users to five media: text, graphics, bit-mapped images, spreadsheets and voice. Voice will not be used for submitting NSF proposals, he says.

The system includes a text editor and tools like MacPaint and MacDraw, says Atkins. "The novelty is that the tools are immediately on line. The document, for example, includes the underlying spreadsheet structure, so when you receive the document you can click (with the mouse on a table) and it becomes a spreadsheet."

Although NSF is now installing workstations at its Washington headquarters to start testing the system this fall, the EXPRES project is two to three years away from being a demonstrable system and about four to five years from becoming a product, Olson says.

"This is a demonstration system," says Olson. "We want to demonstrate a prototype and reveal the types of standardization problems that we will have to deal with before we implement it. The technology works right now, but setting up a proposal-processing system between consortium campuses and NSF and training everyone is a two-year project."

The future is promising, Olson says. "Just imagine the kind of messages you will be able to send with multimedia messaging … You will be able to tell people to go fly a kite in a very expressive way." ■

Silicon Graphics defends the high end

Pioneer in 3-D graphics to unveil faster workstations

BY RICHARD HALSTEAD

Special to MacWEEK

This article is second in an occasional series about workstation vendors.

MOUNTAIN VIEW, Calif. — Just as the trailing footfalls of its competitors are growing loud, Silicon Graphics Inc. is about to accelerate with a runner's kick that will enhance and protect its reputation as the leading producer of superworkstations.

The company that has already established a reputation for producing machines on the cutting edge of 3-D graphics will soon introduce machines 20 to 100 times faster than its current models, says James H. Clark, Silicon Graphics' founder.

Since Silicon Graphics deals strictly in very expensive, high-end graphics computers, its quickened pace will not affect companies such as Apple Computer that focus on making technology affordable to the general public. It may, however, cause a number of high-performance workstation makers — like Sun Microsystems Inc., Apollo Computer Inc. and Hewlett-Packard — to gasp for air.

> "Silicon Graphics' quickened pace may cause a number of high-performance workstation vendors to gasp for air."

Clark, a former associate professor of electrical engineering at Stanford University in Palo Alto, Calif., left the university in 1981. With the help of seven other Stanford alumni (some teachers and some students), Clark founded Silicon Graphics, which in just six years has become the pre-eminent manufacturer of graphics-intensive superworkstations.

"I'd say they're very good," says Charles Foundeler, president of Daratech, a market research firm based in Cambridge, Mass. "Everyone else is playing catch up."

"They're the leader," says John Logan, an analyst with the Yankee Group in Framingham, Mass.

While at Stanford, Clark says he concluded that if workstations were going to perform the complex graphics tasks that engineers, animators, industrial designers and scientists were demanding, a machine designed specifically for graphics was required.

"There was no other way to get around the large number of calculations required," Clark says. "The only way to do it was to build a specialized, integrated machine."

To manage graphics processing, Silicon Graphics developed a "geometry engine," a proprietary Very-Large-Scale-Integration (VLSI) circuit that performs graphics processing independently of the system's central processing unit.

Another VLSI circuit, known as a "geometry accelerator," performs data conversion and buffering, boosting the performance of the system's CPU as well as the geometry engine. Silicon Graphics' novel design allows end users to manipulate complex 3-D images in real time.

Not surprisingly, all this power comes at a high price. Silicon Graphics' superworkstations cost $20,000 to $80,000 each. Most customers, however, are willing to pay whatever it takes to get state-of-the-art equipment, Foundeler says.

Customer hunger for innovation also helps to explain why Silicon Graphics has carved out a market niche so quickly.

"The tendency for companies to settle for a little less to go with a more established company is not as characteristic of this market," says Carl Machover, a graphics consultant in White Plains, N.Y.

The superworkstation market that Silicon Graphics dominates was valued at $200 million in 1986 by Dataquest Inc., a market research firm in San Jose, Calif.

Dataquest says it expects this segment of the market to grow at an annual rate of 51 percent and to be a $1 billion market by 1990. The firm estimates the total market for technical workstations in 1986 amounted to $1.5 billion.

Silicon Graphics' net revenue for the nine-month period that ended March 31 was $57.2 million, an increase of 110 percent from the comparable period of 1986.

The company's net income during the same period grew to $6.9 million, up from $623,000 for the comparable period of 1986. The increase in revenue was due to increases in superworkstation shipments.

The company also is flush with cash following its $18 million initial public offering on Oct. 29, 1986. The stock sold for $11.25 a share.

Following private financing by venture capital funds such as the Mayfield Fund and New Enterprise Associates, the company has raised more than an estimated $75 million and currently has cash reserves of nearly $50 million, Clark says.

Until recently, Silicon Graphics has not faced much competition. Its technological lead has allowed Silicon Graphics to keep most of the high-margin superworkstation market to itself. Clark says he estimates the company's profit margin to be 55 percent.

Now, however, other established workstation manufacturers — Hewlett-Packard, Sun, Apollo, dark-horse start-ups such as Dana Computer Inc. in Sunnyvale, Calif., and Stellar Computer in Newton, Mass. — are scaling the walls of the citadel.

"There certainly are a lot of people targeting that market," Machover says. Apollo's recently introduced 590 Turbo system and Hewlett-Packard's highest performance model of the 9000 series come closer than ever before to approximating the performance of Silicon Graphics' products.

DOUG MENUEZ

James Clark, a former Stanford University professor, left academia to found Silicon Graphics, which he has built into a leading manufacturer of superworkstations capable of 3-D graphics.

Also, industry observers are talking about Sun's acquisition of Transept Inc. in Raleigh, N.C., which will help Sun build a geometry engine of its own. To help protect its market niche, "Silicon will have to turn the crank one more time," says Foundeler.

And that is exactly what Clark says he hopes to do. "I'm not concerned with the products that have been introduced recently," he says.

The reason competitors are catching up, he says, is that the architecture of Silicon Graphics' computers is five years old. With the introduction of its new products this year, the company will re-establish a comfortable lead.

Clark refuses to elaborate on the design of those products or the exact timetable for their release; however, it is safe to assume they will be "RISC(y)." That is, the new products probably will use RISC (Reduced Instruction Set Computer) architecture and, therefore, feature increased power.

Silicon Graphics gave a preview of things to come when it debuted its IRIS 4D/60 superworkstation in March. The first of the company's next generation of 3-D workstations, the IRIS-4D Series, this machine delivers at a sustained rate of 5 Mips (millions of instructions per second) and lists at $74,900, Clark says.

Future RISC-based machines — the next of which is scheduled for release in September — will be far less expensive, according to Clark.

The new RISC-based machines were designed and built in a cooperative effort with Prime Computer Inc. and MIPS Computer Systems, says Roselie Buonauro, Silicon Graphics' vice president of marketing. MIPS Computer supplied the RISC architecture for the new system, but does not market a superworkstation of its own, she says.

Prime, on other hand, will sell its own version of the IRIS-4D Series, primarily in the CAD/CAM market, Buonauro says. Because Prime and Silicon Graphics focus on different markets, Buonauro says she sees no potential conflict of interests.

Like Clark, Buonauro is not overly worried about new competition. "They have some very impressive specs, but it is not clear what they will be developing in the way of overall capability," she says.

She says she believes Silicon Graphics' overall lead in the market is enhanced by the large number of applications software available for its products.

Analysts say that Silicon Graphics is the machine of choice for third-party developers of superworkstation software.

Unlike other workstation manufacturers, such as Sun and Apollo, Silicon Graphics will not attempt to penetrate the growing market for less powerful, inexpensive stations priced around $5,000.

> "Unlike other manufacturers, like Sun and Apollo, Silicon Graphics will not try to penetrate the market for less powerful workstations priced around $5,000."

As for his competitors' decision to do so, Clark says, "I hope they get themselves totally preoccupied with that — because we won't be there."

Instead, Silicon Graphics intends to forge into the technological unknown. The company spent 16 percent of its net revenues on research and development during the quarter that ended March 7, down slightly from 19 percent during the same period a year ago. After all, that is why Clark decided to leave academia: "I like to make things happen that make the world change." ■

Apple tests campaign to bundle Macintoshes with accounting software

BY DANIEL RUBY

MacWEEK Staff

BOSTON — Hundreds of small-business proprietors in Seattle, Minneapolis and Boston were the first audiences for a new Apple Computer Inc. campaign designed to sell Macintosh computers bundled with accounting software.

Last month the company used those three cities as test markets for the Apple Accounting Seminar program. Attendees of the seminar saw a two-and-a-half-hour presentation about benefits of automated accounting for small businesses. The program included a slick marketing film, product demonstrations and presentations by Big Eight accounting firm Peat Marwick Main and accounting software publishers Layered Inc. and Great Plains Software.

The seminar program is another of Apple's efforts to introduce the Macintosh into business settings. The test program is the result of more than a year's work by Apple's Business Development Group, says Christine Thompson, manager of business marketing.

Thompson says Apple is testing the program in the three cities this summer before deciding whether to introduce it nationwide. "It could be 'tweaked' a little and then rolled out soon, 'tweaked' a lot and rolled out later, or it could be dropped," she says.

Early indications, however, are that the program is a success. Thompson says one Minneapolis dealer closed seven sales in the first week following the seminar in that city.

Besides the seminar, the program includes discounts on follow-up training and application support from Peat Marwick accountants as inducements to buy. A subset of Apple dealers has received special training in selling accounting, which is considered a more complicated sale than other applications.

In selecting Layered and Great Plains for the program, Apple passed over a number of other companies that offer Macintosh accounting programs. Donald O'Connor, Layered's vice president of marketing, says Apple picked the two companies because they offered the most comprehensive accounting systems.

Thompson noted the two programs have passed compliance testing by Peat Marwick. However, she said she expects lower-end programs from other companies also to benefit from the program because some seminar attendees would choose to go with a less costly solution.

"We recognize that it is hard to put together a program with a half-dozen products, but we feel our product fits a niche that complements those high-end products," says Mari Latterell, Macintosh product manager for Migent, publisher of In-House Accountant.

Peat Marwick's involvement brings high-powered accounting expertise to small businesses that might not otherwise be able to afford consulting from a Big Eight firm. ■

Apple advertising flying high despite decreased budget

BY DENNIS WYSS

Special to MacWEEK

The "red-eye" flight is about to land when the burly, white-haired senior manager strikes up a conversation with the lean, young fast-tracker sitting next to him.

"I see you've got homework, too."

"It never ends," says the young executive with a wry smile, shaking his head as he looks up from his report.

"That looks like it was quite a project," rumbles the older man as he glances over at the young man's report.

"Take a look."

"Impressive," says the older man. "I wish we could do work like this, but we have to crank 'em out every week."

"So do we," the young executive says, beginning a slow, knowledgeable smile.

"But we can't afford to farm 'em out," says the older man, frowning. "We have to do them on our computer."

"So do we."

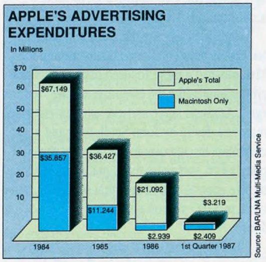
"You did that on a computer?" asks the astonished senior executive. "What kind of computer?"

The word "Macintosh" and the Apple Computer rainbow apple logo replaces the two men talking in the subdued lighting of the airplane.

This conversation was heard by millions of television viewers for the first time during commercial breaks in the World Series last October. Called the "The Red Eye," the polished vignette spearheads Apple's latest thrust of the Macintosh into the business marketplace, a strategy the company has undertaken despite dramatic decreases in advertising budgets in the three years since the Macintosh was introduced.

In 1984, Apple spent about $67.1 million on advertising, according to Broadcast Advertisers Reports Inc. and Publishers Information Bureau Inc. (BAR-LNA), an advertising multimedia service. In 1985, total advertising plunged to approximately $36.4 million; last year's advertising budget dropped even further, to about $21 million. First-quarter

See ADVERTISING, Page 14



Source: BAR/LNA Multi-Media Service

After break with Target, Deneba charts new course

BY ABIGAIL CHRISTOPHER

MacWEEK Staff

MIAMI — Deneba Software's president, Manny Menendez, has confirmed that his company and Target Software Inc., the owner of the desktop-publishing program Scoop, have cut all business ties.

"It [a new joint marketing agreement] isn't going to happen. Subsequent negotiations never came through," Menendez says.

According to Salvatore Patalano, Target's chairman and CEO, "There's every reason to believe that our mutual attorneys will be able to establish a time and place where the two companies (Target and Deneba) can iron out their differences."

However, Menendez says that Deneba is

See DENEBA, Page 15

Desktop publishers at show more interested in Macs

BY STEVE ROSENTHAL

Special to MacWEEK

LOS ANGELES — Interest in Macintosh-based desktop publishing remained high recently at a show supposedly aimed at solutions based on Microsoft Windows running on the IBM PC.

According to many of the vendors exhibiting products, about half of the attendees at the "1987 Desktop Publishing Forum: Answers" show sponsored here by Aldus Corp. and Microsoft Corp., as well as a similar number at the show held in New York the week before, were more interested in Macintosh products than in programs and hardware for MS-DOS and PC-based systems.

The show's purpose, according to Microsoft Chairman Bill Gates, was to "allow

See SHOW, Page15

Useability quotient key to Mac's success

BY HEATHER LEITCH

Special to MacWEEK

At one time, "user friendly" was nearly synonymous with "idiot proof." Today, systems are pegged as "useable" and "intuitive," terms used to define complex software that is also easy to use.

"Useability isn't only related to screen format," says Richard Koffler, managing partner of The Koffler Group, a consulting firm based in Santa Monica, Calif. "It relates to how software interfaces with hardware and how users behave and react to the system."

How well computer systems suit their users' needs is a growing concern, and while the Macintosh does not ensure ease of use, Koffler says the graphics-based user interface gives it a head start. For intermittent users, such as middle managers, a graphics interface also reduces the time spent relearning commands, says Rob Campbell, president of Forethought Inc. in Mountain View, Calif.

"The casual user is a real victim of command-driven interfaces," he says. "People forget commands quickly."

But the computer itself is only half the story. The software must anticipate the users' thought patterns, says Koffler. "For instance, some desktop-publishing systems don't support the way a layout artist thinks," he says. "They go from the end result backward."

To make sure programs are in sync with their target groups, software vendors such as Forethought, Borland International of Scotts Valley, Calif., and Microsoft Corp. of Redmond, Wash., test products using both focus groups and beta-test sites.

"We want to make sure anyone buying our software can be proficient within 45 minutes," says Campbell.

Blythe Software in Mountain View, Calif., manufacturer of Omnis 3, hired Gary Lord to direct software development to ensure that software upgrades and new products were easy to use and "Mac-like." "Everyone here lives and breathes the Macintosh," Lord says.

> "The casual user is a real victim of command- driven interfaces."
>
> **Rob Campbell, president, Forethought Inc.**

To keep Apple software intuitive, the human interface department at Apple Computer in Cupertino, Calif., runs new products through its testing site and offers software vendors technical guidance.

"We apply cognitive principles to make sure the exchange between the computer and the user is most efficient," says Joy Mountford, manager of the human interface group.

According to Mountford, the multifaceted department gives vendors a list of design guidelines and "tech notes," updates on new developments such as color and heirarchical menus through the Apple Programmers and Developers Association.

On the corporate level, consultants like The Koffler Group and Aaron Marcus Associates in Berkeley, Calif., offer clients a scientific way to measure and improve useability.

Richard Sorken, vice president of systems development services for the Bank of California in San Francisco, hired The Koffler Group in April to help the bank develop an information system. The bank previously had been concerned with accounting systems.

"Information systems require a higher level of useability," Sorkin says. He says one person will be designated to be in control of ease-of-use and to make sure that useability factors are taken into account and resolved. In exchange, the company expects to find its training time decreased and productivity increased. ■

ADVERTISING

Continued from Page 13

advertising for 1987 shows $3.2 million, according to BAR figures.

Apple officials say the slash in advertising budgets is based on the company aiming the Macintosh at a more focused market: business professionals like the executive on the "red eye." Analysts agree and cite another possible reason: a desire by John Sculley, Apple's chairman, to cut costs in the wake of the company's first loss in its third quarter of 1985 and to take control of a budget that reportedly ran close to $100 million under co-founder Steven Jobs.

"Before, there was a more broad-brush approach to advertising," says Tom Galvin, an analyst who tracks Apple for Shearson Lehman Brothers Inc. in New York. "Now they're moving toward more focused niches, such as desktop publishing and engineering."

"In 1984, we were trying to create an awareness in consumers of the Macintosh as 'the computer for the rest of us,' and that meant budgeting advertising at much higher levels," says Bruce Mowery, Apple's director of advertising and sales promotion. "Now we're more focused, and we feel that makes us more efficient."

And there is the indisputable fact that Apple sales are healthy and growing, he says.

The biggest part of Apple's advertising pie goes to the most expensive medium — television. In 1984, according to BAR figures, Apple spent about $45.4 million on television ads. In 1985, that figure was nearly halved to about $26.2 million. Last year, Apple halved television advertising again to about $13.5 million.

BAR figures show Apple's print advertising also has been reduced by roughly 50 percent in each of the last three years, from about $21.5 million in 1984 to approximately $9.5 million in 1985 and $6.7 million last year.

"I see no negative signals from the drop in their advertising budget," says John Dean, an analyst for Montgomery Securities in San Francisco. "They're trying a different kind of marketing than before, a more mature use of their money."

Another important factor working in Apple's favor, Galvin says, is the company's early entrance into the personal computer market, which compensates for its being smaller than many of its competitors. "The name stands out and is easily identifiable, which really works in their favor," Galvin says.

And then there is Sculley. Few deny the Apple chairman looms large over the company's advertising efforts. Last year, Apple changed advertising firms from Chiat/Day Inc. to BBD&O International, whose other accounts include Pepsi-Cola, where Sculley was a marketing executive.

"Chiat/Day was close to Jobs," says one San Francisco advertising industry figure. "Sculley's his own man."

Apple's original Macintosh advertising strategy, reflected in Chiat/Day television commercials, generally focused on the Mac's flexible interface: You were born able to use a Macintosh. Chiat/Day's spots sometimes took aim at arch rival IBM in hard-hitting ways, such as the famous 1985 Super Bowl "lemmings" commercial, featuring a mass of business drones whistling "hi-ho-hi-ho" as they walk over a cliff.

BBD&O takes a more subtle approach. Tough, bottom-line executives find moments of wonder and enlightenment as they discover that a complex report was done in only a week by office mavericks using their Macintosh, instead of what are alluded to as the company's slower, clunkier computers.

The BBD&O Apple advertisements impressed the judges at the International Advertising Film Festival in Cannes, France, two weeks ago, taking a gold award at the 34th annual festival.

Still, Apple's current low-key advertising efforts contrast markedly with IBM's expensive, high-profile, storm-the-beachhead campaign for its new PS/2 computers. Advertising industry sources estimate IBM's effort may have topped the $50 million mark.

Mowery hints that Apple has laid low during the IBM blitz — "We see no point in flying in the wind of IBM flack" — but while declining to say whether Apple will boost its advertising budget to answer IBM with a blast of its own, Mowery promises "continuing pressure."

"Computers are not a bar of soap," he says. "We're taking it one stair at a time because that's the way business moves, and business is the market we're focusing on for the Macintosh." ■

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Ever since paper replaced cave walls as man's favorite vehicle for expression, the attempt to communicate ideas has been an enduring source of frustration.

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Simply put, Ready, Set, Go! 4.0 is the easiest, fastest, most creative way yet devised of helping you organize, visualize and edit your thoughts onto professional-quality pages.

In fact, it removes any meaningful distinction between what you can do at your desk and what might otherwise require large budgets, long lead times and a studio full of designers.

The technically inclined will be pleased to note that it has

DENEBA

Continued from Page 13

changing the names, repackaging and rewriting the documentation for all the products that had previously been marketed by Target.

Patalano says that his main concern is for licensed Target customers to receive adequate support and upgraded software.

But Menendez says that Deneba, not Target, will provide the upgrades and support for its products.

Product name changes include: Memorandum, now known as Comment; Merriam-Webster's Word 3.0 has become Merriam-Webster's for the Mac; MacLightning's name has been changed twice, first to Mentor and now to Coach. The Merriam Webster's Thesaurus for Word 3.0 has been renamed The Merriam-Webster's Thesaurus for the Macintosh.

The basic, legal and medical Merriam-Webster dictionaries previously sold separately are now available for $99 as a package.

There are no other price changes, and customers who buy these programs will receive updated versions.

Coach will ship Sept. 1, and the other programs will be available at Mac Expo in August.

MindWork Software of Carmel, Calif., maker of MindWrite, also has asked Deneba to develop a version of the Coach spell checker for its word processor.

Mendenez says that a number of companies have expressed interest in establishing joint-marketing agreements, but "we don't see a need to join forces with another company to market our products at this time." ■

Bering signs service contract

SCOTTS VALLEY, Calif. — Bering Industries Inc. customers can worry less now about downtime since the company signed a service contract with John Fluke Manufacturing Co. Inc.

According to Bering representative Sandy Ostrau, the contract will be especially valuable for East Coast customers, where 50 percent of its business is located.

Bering manufactures disk drives, tape drives and mass storage systems, including the Totem line of removable cassettes. It plans to introduce a new line of storage products in a few months, says Ostrau.

John Fluke Manufacturing will be available to depot parts and units and provide technical service when Bering technical representatives are not available.

John Fluke Technical Centers are located in California, Colorado, Washington, Illinois, Texas, New Jersey, Maryland and Florida. ■

3Com reorganizes sales

SANTA CLARA, Calif. — 3Com Corp. announced the recent reorganization of its sales, marketing and customer service departments. The reorganization is part of 3Com's shift toward offering work-group system solutions instead of networking components.

John Marman is senior vice president of the new sales, marketing and service division. Marman had been vice president of sales and marketing.

3Com designs, manufactures, distributes and supports work-group computing systems for network-based, graphics-intensive applications. The work-group systems strategy is based on 3System, which has an open architecture that allows Macintoshes to be connected to IBM PCs and compatibles on AppleTalk, Ethernet and Token-Ring networks.

The system integrates four areas of networking systems: work-group servers, network operating system software, network adapters and workstations.

The company distributes its products through value-added resellers, 1,200 authorized dealers and OEMs.

The company's VARs develop work-group systems solutions for vertical markets like medical, accounting and publishing. ■

SHOW

Continued from Page 13

end users and resellers to get the latest information on the desktop-publishing products that can be integrated under Microsoft Windows."

But, as Karen Howe, Aldus' third-party relations manager, says, "People are coming in and saying, 'Where are the Macs?'"

"Most of these people here have some kind of system already, and a lot have Macintoshes," says David Le, marketing manager for Sigma Designs of Fremont, Calif. For this reason, Sigma was displaying its LaserView large-screen display for the Macintosh as well as its large-screen displays for PCs. ■

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CALENDAR

JULY

20-23 — The Federal Desktop-Publishing Conference and Product Showcase (Washington)
Sponsored by the Association of Federal Computer Users, the conference includes product exhibitions and tutorials with an explanatory introduction to desktop publishing. Contact: FDPC coordinator, (703) 845-1657.

21-23 — The Desktop Publishing Conference (Arlington, Va.)
Includes 30 exhibitors from Apple to Xerox, tutorials, a vendor showcase and a 300-page complimentary desktop-publishing encyclopedia and buyer's guide. Contact: Jerry Standig at The JLS Group, (703) 642-1332.

22-23 — National Fincom: National Financial and Computer Automation Conference (New York)
Conference and exhibition about automation systems in the financial industry. Aimed at bankers, securities professionals and computer specialists in the banking field. Contact: (800) 237-7601 or in New Jersey, (201) 569-6474.

22-24 — Microtrends '87 (New York)
Exhibits and sessions on educational trends and technology, copyright, networking and market update for people in the microcomputer industry. Contact: International Communications Industries Association, (703) 273-7206.

27-31 — ACM SIGGRAPH '87 (Anaheim, Calif.)
Exhibition featuring 250 computer graphics companies and their wares. Show also includes panel session, tutorials and video shows on computer graphics applications. Contact: Ellen Frisbie, (312) 644-6610.

AUGUST

2-4 — Recognition Technologies Users Association Exposition (San Francisco)
Exposition on recognition technologies equipment, supplies and services, including telecommunications equipment, optical character recognition and image processing equipment. Contact: Robert Jakubowicz, (802) 362-4151.

5-7 — The Seybold Group's Desktop Productivity Conference (Boston)
Aimed at senior executives and upper-level managers interested in information systems, data processing, communications, corporate planning, finance and office automation. Contact: The Seybold Group, (408) 297-0888.

6-9 — Extending the Human Mind: Computers in Education (Eugene, Ore.)
Intended for educators, administrators and software developers, conference includes 56 special interest sessions, review laboratories, exhibitors and hands-on workshops for the Apple IIe and the Macintosh. Contact: University of Oregon Continuation Center, (503) 686-3537.

9-11 — Spocad III CAD/CAE/CIM Conference (Coeur D'Alene, Idaho)
Sponsored by Spocad, conference includes more than 50 exhibitors, and tutorials and panel discussions about products, new applications and market trends. Contact: Spocad, (509) 484-6812.

10-14 — NCGA Computer and Art Design Conference (Chicago)
Seminars and hands-on presentations for Apple, Macintosh and Amiga computers featuring graphics applications for the fine arts, including dance, theater and music. Contact: Toni Grainer, (703) 698-9600.

11-13 — Mac Expo (Boston)
Business, business programming, desktop publishing and desktop engineering interests will be addressed; desktop publishing and networking seminars. Contact: Deborah Paul, (617) 329-7466.

17-20 — National Computer Graphics Association CAD/CAM Conference (Boston)
Exhibit and conference for educators, researchers and vendors involved in computer graphics. Contact: NCGA, (800) 225-NCGA.

31 — Building Strategic Advantage Through Computing (Chicago)
One-day seminar addresses the challenges faced by information systems executives and the business strategies behind information technologies. Contact: Digital Consulting Inc. at (617) 470-3880.

Send calendar events to: Clair Whitmer, MacWEEK Calendar, 525 Brannan St., San Francisco, Calif. 94107.

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Closes July 27	Closes August 3	Closes August 10

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COMMUNICATING

John Edwards

Being a certified coward, many things in life scare me. For instance, I am afraid of tall ladders, the possibility of nuclear war and noisy Mac SE fans, though not necessarily in that order. But the one thing that really chills my blood and pales my skin is a vulnerable local-area network (LAN).

As Mac networks continue to grow in both size and popularity, LAN security becomes ever more important. Unfortunately, most network administrators view system security with ambivalence. Intellectually, they realize security is important. After all, when a data-pilfering incident is discovered, it is the administrator's head that is most likely to be served up on a disk platter. But network security involves passwords, encryption and many other technicalities that steal resources from LAN performance and useability. Therefore, most administrators cringe at the idea of adding layers of security to an already overtaxed system.

There are two schools of opinion on LAN security. Like true fanatics, followers of each approach believe their method of dealing with network vulnerability is the only true and correct method for data salvation. Like all zealots, both camps also tend to retain extreme views.

Approach A — the Hitler tactic — holds that the administrator should dump as much security as possible onto the system. The idea is to fortify and intimidate. Users are made to feel that Big Administrator is in total control and that it is useless to even attempt a data raid because the system is so secure that Steve Wozniak himself could not get more than a security failure message out of the network.

In this system, users must memorize an endless list of passwords, one for each of several dozen security levels. They must learn to deal with a network that has a less than sterling response time (Draconian security measures can have an adverse effect on system performance), confusing menus and the occasional vital file that disappears into encryption limbo. An Approach A network is hell on earth for both users and administrators. Yet, as long as enough network operators insist on viewing their network as a digital bank vault, the tactic will remain widespread.

The alternative to Approach A is, quite logically, Approach B, more commonly known as "the white flag tactic." Approach B networks follow an interpreted nihilistic philosophy. In a typical Approach B system, few safeguards are present; a handful of passwords and a lock-equipped file server typically suffice.

When establishing this type of network, the administrator rationalizes that a persistent system cracker will gain access to the desired data no matter how many safeguards are plunked onto the network. Therefore, the administrator capitulates and eschews all but the most basic protections. Approach B networks should have the word "trust" printed on each workstation.

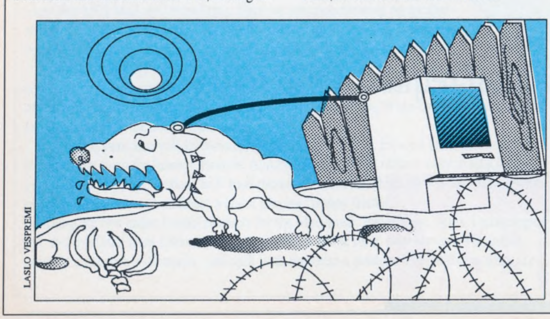
In practice, neither tactic works very well. The problem with Approach A is that you inevitably create disgruntled employees who eventually come to hate your guts. And since unhappy workers are unproductive workers, Approach A only works if you're trying to force your company into bankruptcy as part of some elaborate fraud scheme.

Approach B systems, on the other hand, almost invite workers to steal sensitive data. After all, if there is no risk, why not see how many charges Bill is claiming on his expense account? Your loyal workers may not steal any vital data, but your system probably will not have much privacy either.

What many network administrators and operators fail to recognize is the motivation behind data thefts. Despite published claims to the contrary, precocious teen-agers and business competitors are not directly responsible for most system violations. In most cases, data is stolen by trusted employees, either for personal use or for sale to other interested parties.

The best way to check this sort of activity is to build good relations among workers. If an employee is satisfied with his job, it is unlikely he will try to aid business rivals.

One can try thwarting dishonest employees by using multiple security levels, diskless workstations and the like, but crooked workers seem to find a way around safeguards. What if the network administrator can be bought? Or the employees are so dissatisfied they swap passwords in the cafeteria? These are scary thoughts. But then, network security is pretty darn frightening. Even more scary than tall ladders, nuclear war and noisy Mac SE fans. Perhaps the only solution is to mix common sense security strategies with a dose of humanity. Then, be sure to duck and cover. ■



TO THE EDITOR

Apple's investment strategy

Following the article titled "Apple suspends investments in outside software firms to avoid conflict" (MacWEEK, June 15), I'd like to clarify a point. There seems to be some confusion about our strategic investment activities in horizontal software companies and the potential conflicts that could arise with Apple's spinoff software company.

Apple Computer's Strategic Investment Group has suspended investments only in companies that publish horizontal applications software. Furthermore, this suspension is only temporary — until Apple's new software-publishing subsidiary becomes an independent company. We are continuing to actively invest in companies working in other areas of strategic importance to Apple, including certain vertical-market software and hardware, data-communications software, advanced technology areas such as speech recognition, and key peripherals.

Dan Eilers, director,
Apple Strategic Investment Group,
Cupertino, Calif.

Works tip

Your June 15 issue reviewed Microsoft Works in the context of several Mac spreadsheets. Author Steve Cummings commented that "the graphic definition dialog box fills up the whole screen so that the user cannot refer to the spreadsheet for the correct cell coordinates."

In fact, by pointing to the top border and holding down the mouse button, the dialog box can be moved to make the spreadsheet visible.

Congratulations on your new publication and best of luck!

Bob Lakin,
manager of marketing planning
Tandem Computers,
Cupertino, Calif.

Hard-disk drives

In response to your review of hard-disk drives ("Expanding storage capacity," MacWEEK, May 25): The review was excellent, but I would like to correct a mistake made in the features chart.

CMS does provide an automatic head-parking routine for every system they ship. Our S40, PRO40-SE/i, PRO40II/i, PRO80-II/i, SD80 and S160 all auto park at power down so there is no need for the user to perform this function.

Also, the reviewer seemed to be irritated by the "hyperactive yellow LED" that lights up during any bus activity. Our choice on this particular system was to either have no LED light at all or show all bus activity. The desktop, when using high-capacity hard drives, can take several seconds to rebuild.

If a user should think the system was hung and decided to power down during this rebuild, it might destroy the directory and lose all data on the drive. We at CMS think disk-activity lights are a must and that Apple made a mistake not including one on the Mac II.

The reviewer thought that our external DIP switches used to set the SCSI address were inconvenient and that it would have been better if we furnished software to change the SCSI address as the Hyper Drive FX/40 and SuperMac drives provide.

Later on the reviewer wrote, "We suffered repeated system crashes while attempting to use the software that changes drives' SCSI address number … our misfortunes in this case made us appreciate the virtues of an easy-to-use hardware switch." At CMS, we think that setting SCSI addresses should be left to "electrical" settings via switches, not software stored on the drive.

Charles F. McConathy,
marketing director,
CMS Enhancements Inc.,
Tustin, Calif.

Word incompatibility

Congratulations to you, your staff and your publisher for producing a well-done and much-needed product.

Here's another complaint about Word 3: It won't work with Ready,Set,Go! 3. I hope the new, improved versions of those programs will work together. We use Ready,Set,Go! 3 more than any other program in our business and still do most of our word processing with Word 1 since 3 is such a lemon.

L. Mark Finch, CEO,
Apple Press Inc.,
Indianapolis, Ind.

Send letters to MacWEEK, 525 Brannan St., San Francisco, Calif. 94107; or MCI: MACWEEK. Please include your name, title, address and telephone number.

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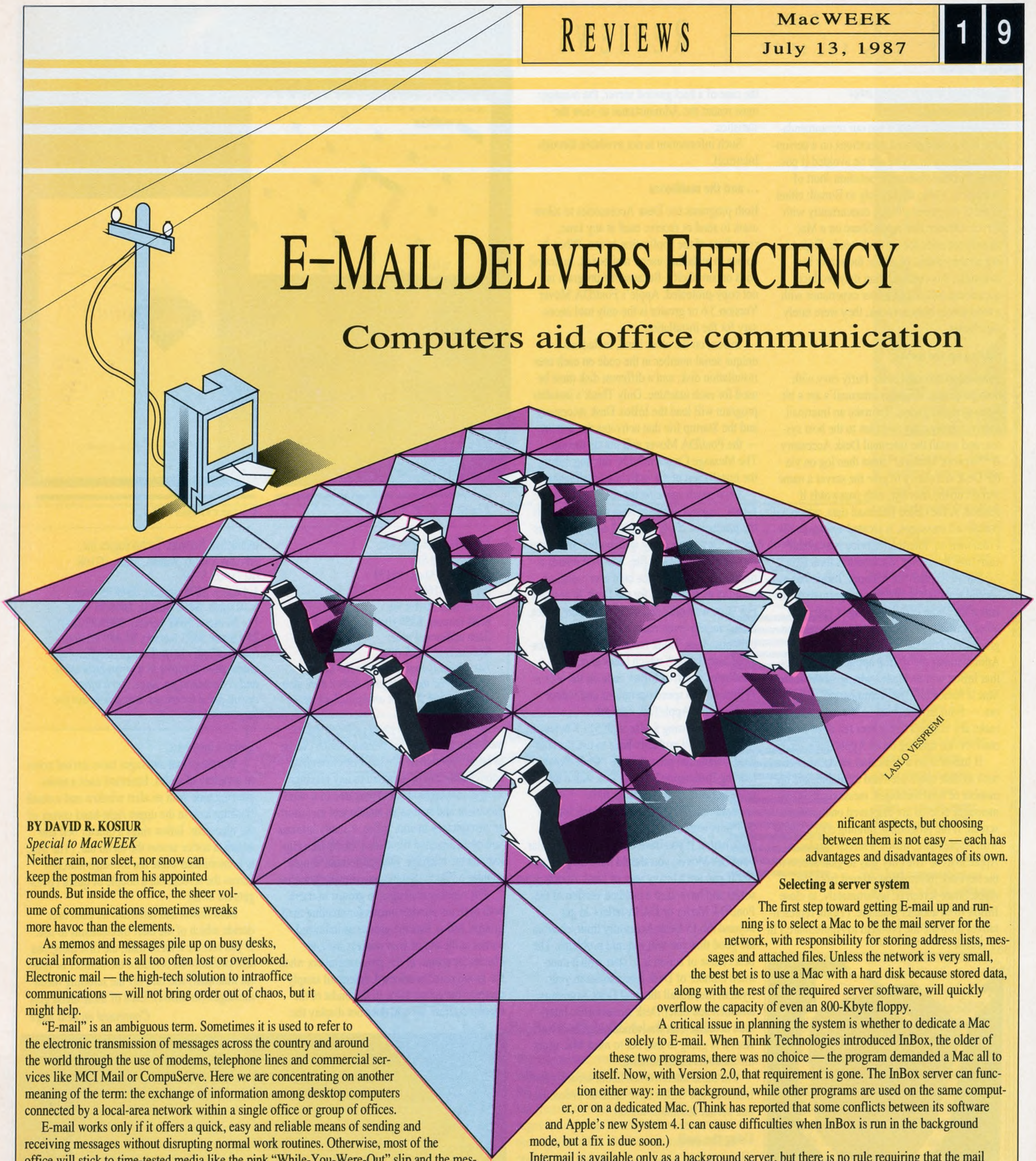

LASLO VESPREMI

E-MAIL DELIVERS EFFICIENCY

Computers aid office communication

BY DAVID R. KOSIUR
Special to MacWEEK

Neither rain, nor sleet, nor snow can keep the postman from his appointed rounds. But inside the office, the sheer volume of communications sometimes wreaks more havoc than the elements.

As memos and messages pile up on busy desks, crucial information is all too often lost or overlooked. Electronic mail — the high-tech solution to intraoffice communications — will not bring order out of chaos, but it might help.

"E-mail" is an ambiguous term. Sometimes it is used to refer to the electronic transmission of messages across the country and around the world through the use of modems, telephone lines and commercial services like MCI Mail or CompuServe. Here we are concentrating on another meaning of the term: the exchange of information among desktop computers connected by a local-area network within a single office or group of offices.

E-mail works only if it offers a quick, easy and reliable means of sending and receiving messages without disrupting normal work routines. Otherwise, most of the office will stick to time-tested media like the pink "While-You-Were-Out" slip and the message taped next to the coffee machine.

A good system also will let users reply to messages at will, forward them to others and store or print them for future reference. And the system should make it easy to attach files generated in other applications to E-mail memos so users can share provisional page-layouts or up-to-the-minute spreadsheets without playing "floppy frisbee."

There are two major E-mail products for the Macintosh: InBox from Think Technologies Inc. and Intermail from Internet Inc. Each provides all the basic mail services Macintosh users on a network will require, and each is an impressive product. They differ in some significant aspects, but choosing between them is not easy — each has advantages and disadvantages of its own.

Selecting a server system

The first step toward getting E-mail up and running is to select a Mac to be the mail server for the network, with responsibility for storing address lists, messages and attached files. Unless the network is very small, the best bet is to use a Mac with a hard disk because stored data, along with the rest of the required server software, will quickly overflow the capacity of even an 800-Kbyte floppy.

A critical issue in planning the system is whether to dedicate a Mac solely to E-mail. When Think Technologies introduced InBox, the older of these two programs, there was no choice — the program demanded a Mac all to itself. Now, with Version 2.0, that requirement is gone. The InBox server can function either way: in the background, while other programs are used on the same computer, or on a dedicated Mac. (Think has reported that some conflicts between its software and Apple's new System 4.1 can cause difficulties when InBox is run in the background mode, but a fix is due soon.)

Intermail is available only as a background server, but there is no rule requiring that the mail Mac actually be used for anything else.

The idea of saving the cost of an additional machine by running the mail server on a functioning workstation is appealing, but there is a price to be paid in performance. With Intermail, in particular, trying to use a Mac that was also acting as the server in our tests was a trying experience. The read/write light on the hard disk flashed almost continuously, and the system often took over the screen at inopportune times. At times the cursor jumped uncontrollably across the screen. At best, expect response times in other applications to slow noticeably if either of these programs is running in

Continued on next page

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the background.

The choice is yours, but our recommendation is that background operations on a personal workstation in active use be avoided if possible. But there is another solution short of dedicating a Mac exclusively to E-mail: either of these programs will run concurrently with server software like AppleShare on a Mac already set aside for network needs. Depending on the volume of traffic the server has to handle, this configuration may produce occasional delays, but in our experience with a moderately busy network, they were rarely significant.

Setting up the server

Installation procedures are fairly easy with both programs, although Intermail's are a bit more straightforward. To make an Intermail server, merely copy two files to the host system and install the Intermail Desk Accessory. A "Network Manager" must then log on via the Desk Accessory to give the server a name and set up the user list, with passwords if desired. A file called Intermail data, which will contain all messages, is created automatically. From then on, Intermail service is available each time the server Macintosh is turned on.

For an AppleShare network, InBox has a special stand-alone installer program to establish what Think calls a Message Center; for other networks, the InBox Administrator program serves the same purpose. Making Administrator the startup application ensures that InBox will be loaded whenever the server Mac is turned on. The Administrator must be run — from any machine on the network — to make any changes to the user list or to close mail service running on an AppleShare server.

If InBox is on a dedicated server, statistics such as disk space used and available, and the number of total messages, messages read and messages deleted are displayed on the Mac's screen. If the program is running concurrently with AppleShare, InBox's screen displaces AppleShare's. The only way to gain access to the network information offered from the AppleShare screen is, unfortunately, to close InBox from another machine. (Think representatives attribute the problem to AppleShare.) In the case of a background server, the manager must restart the Administrator to view the statistics.

LAX JANSEN

Such information is not available through Intermail.

... and the mailboxes

Both programs use Desk Accessories to allow users to send or receive mail at any time, regardless of the application in use. When it comes to installing users' mailboxes, Intermail wins on simplicity. Because the program is not copy-protected, Apple's Font/DA Mover Version 3.6 or greater is the only tool necessary for the installation.

InBox, on the other hand, includes a unique serial number in the code on each user installation disk, and a different disk must be used for each machine. Only Think's Installer program will load the InBox Desk Accessory and the Startup file that activates the system — the Font/DA Mover will not do the job. The Message Center must be running during the installation of the individual mailboxes.

How much space on the user's disk does E-mail require? If this is an issue, Intermail is the product of choice. It takes only 16 Kbytes for the Desk Accessory and another 39 Kbytes for the Intermail User file. InBox demands a minimum of 105 Kbytes on a user's disk, in addition to 30 Kbytes for the Desk Accessory. For large networks and users on remote nodes, it may require even more room. Under these circumstances, Think recommends "Disk Resident Installation," which loads another 70 Kbytes worth of InBox code on the user's system disk to speed operations and reduce traffic on the AppleTalk network.

If you are using a Mac with 512 Kbytes of RAM, you will probably have to use the standard installation procedure — "Code Downloading Installation" — and live with a bit more network traffic because of it.

Both mail Desk Accessories look for certain slots within the Desk Accessory list for installation. If you have been using the regular Font/DA Mover, you should have no problem. But if you are a heavy user of Desk Accessories and have used a patched version of the Font/DA Mover or DA Installer+ to get beyond the 15 Desk Accessory limit, chances are good that you will run into problems. The best course of action is to start with a minimum number of Desk Accessories in your System file, install the mail Desk Accessory and then add other Desk Accessories. Intermail actually tells you which range of driver slots it is going to use, but to most Mac users the numbers mean nothing.

For those unconcerned about security, both Intermail and InBox have optional procedures that permit automatic log-on.

Using the mail

Although both programs make good use of the Macintosh interface, InBox's user screen is more polished than Intermail's. (See figures 1.and 2) With a dated listing and a variety of symbols for different kinds of communications, the InBox display yields more information about pending messages than does the Intermail screen.

Both systems come with forms for phone messages as well as for memos, which can be as large as about 32 Kbytes. Files from Mac applications can be attached to any message. Longer messages are best prepared in a word processor and sent as an attachment to a shorter introductory memo. InBox visually informs you of an attached file with a little paper-clip icon on the message, while Intermail simply enables a File button in your viewing window.

For sending messages to groups of users, both systems provide means for creating mail groups. InBox lists the groups as italicized names at the top of your address list and checks the names of the group members when the group name is selected. Intermail simply presents the group name in the midst of the regular address list and does not display the group's members.

Warnings that messages have arrived come in a variety of styles. Intermail uses a multiple-ring tone with an alert window and a small flashing icon in the upper right-hand corner of the menu bar. InBox rings a quieter bell and scrolls a notice across the menu bar. (The Mac is immobilized while the message marches across the screen, but a couple of quick clicks gets rid of it.)

Both InBox and Intermail let each user decide which of the alert mechanisms to use. If you receive a lot of mail, the first thing you will probably do is reduce the number of rings (in Intermail) and turn off the scrolling menu messages (in InBox). Each of these alerts gets

Continued on next page

INBOX
Desktop Communications Software
User's Guide
THINK
intermail
We put the talk into Appletalk®

PAUL MORRELL

InBox 2.0

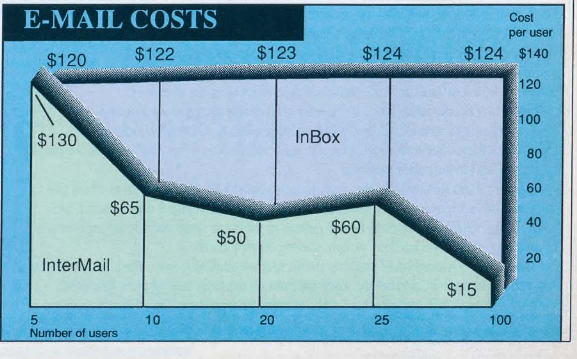
Think Technologies Inc.
420 Bedford St.,
Lexington, Mass. 02173
(617) 863-1099
Three-user starter kit:
$286 (street); **$350** (list)
Each additional user:
$86 (street); **$125** (list)

The oldest E-mail program for the Mac, and still the most elegant, InBox now also handles IBM PCs on an AppleTalk network.

Intermail 1.3

Interactive Network Technologies Inc.
20 Amy Circle, Waban, Mass. 02168
(617) 965-5239
1-4 users: **$278** (street); **$349.95** (list)
5-10 users: **$467** (street); **$649.95** (list)
11- 20 users: **$682** (street); **$999.95**(list)
21+ users: **$852** (street); **$1,499.95** (list)

Intermail offers a full range of office communication features in a straightforward and economical package. Even after recent price increases, it is a bargain for large networks.



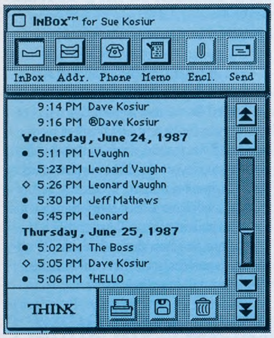
Continued from previous page

annoying very quickly.

Intermail provides a few features unavailable in the competing product. First, it includes an on-line tutorial for users — a nice extra in any program, but one that is especially useful in this program because only one copy of the manual is included in the program's multi-user boxes. A related option in Intermail is the Assistance message, which relays information on system problems directly to the Network Manager. This is a useful feature we wish makers of other networking programs would adopt.

Internet has announced additional optional features for Intermail, at added cost — $99.95 for a site license for each of the two enhancements.

The first, Graphic Messages (illustrated in Figure 3 below), will transmit pictures through the E-mail system. The latest beta version (not shown in the figure) provides a scaling feature and the ability to include text as part of the message. But because pictures must be pasted from the Clipboard, an open graphics program, the Scrapbook or another graphics-opening Desk Accessory is required.



9:14 PM Dave Kosiur
9:16 PM ®Dave Kosiur
Wednesday, June 24, 1987
● 5:11 PM LVaughn
5:23 PM Leonard Vaughn
◇ 5:26 PM Leonard Vaughn
● 5:30 PM Jeff Mathews
● 5:45 PM Leonard
Thursday, June 25, 1987
● 5:02 PM The Boss
◇ 5:05 PM Dave Kosiur
● 5:06 PM †HELLO

Figure 1: Inbox's mail Desk Accessory 's symbols show RSVP requests, memos to yourself, replies to messages.

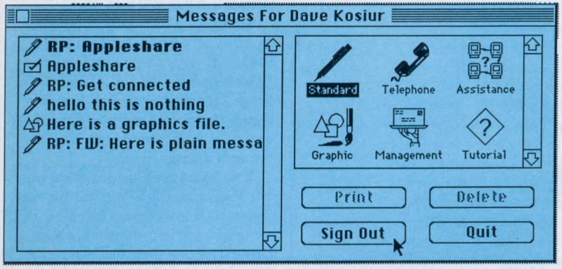
The second extra-cost option, Network Reminder, will transmit networkwide messages at specified dates and times. Although we were not able to test this feature, it sounds useful for doing such things as arranging group meetings.

Keeping the service healthy

As more messages — and their included files — are sent and stored on the server, disk space may dwindle rapidly. E-mail users should be encouraged to delete all unnecessary messages, but it is inevitable that some are going to be kept. InBox and Intermail handle recovery of disk space in different ways.

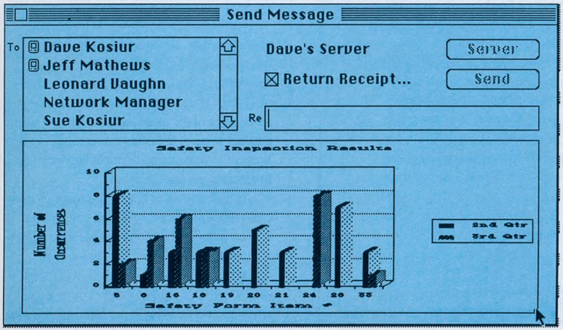
When messages are deleted, neither product automatically makes the freed disk-space available for other uses. But InBox can be set to compress mail files automatically at a certain time of the day, or the manager can use the Administrator application to compress files. A glance at the Message Center statistics should be enough to tell the manager whether file compression is necessary.

Intermail, on the other hand, does not attempt to release space after deleting files but simply maintains the message database at the maximum size it required at some time in its history. Once messages are deleted, space within the database becomes available for storage of other messages. The disadvantage of this approach is that a one-day burst of mail activity leaves more disk space permanently allocated to mail service than is usually needed.



RP: Appleshare
Appleshare
RP: Get connected
hello this is nothing
Here is a graphics file.
RP: FW: Here is plain messa

Figure 2: Intermail's Desk Accessory icons indicate options. Smaller icons show type of message in scrolling box.



To Dave Kosiur
Jeff Mathews
Leonard Vaughn
Network Manager
Sue Kosiur

Dave's Server

☒ Return Receipt...

Re

Figure 3: An option in forthcoming versions of Intermail will display a reduced view of pictures to be sent.

Think Technologies and Internet also take different approaches to the backup of server files. Think provides separate Backup and Restore applications for archiving purposes. Internet simply expects users to archive the server file with one of several widely available backup programs. Files of modest size can, of course, always be copied to a floppy from the Finder.

InBox provides a new facility for "tuning" the network by adjusting AppleTalk settings. Think Technologies says the Tuner is rarely necessary unless the network has more than 100 nodes or many zones linked by a hardware device like Hayes' InterBridge or Kinetics' FastPath. But if delays do develop, tuning may improve the response times, so some trial and error is worthwhile.

Handling larger networks

Because AppleTalk has a theoretical limit of 32 nodes, or even fewer in practice, the key to assembling a large network is to use network zones. Simply put, a zone is a logical grouping of users — or networks — linked on a larger network by a bridge. Typically, most network traffic is local, within small work groups. Establishing zones can significantly improve local performance by isolating such groups from most unnecessary traffic. It is much easier for the network to handle traffic from five users than from five times five.

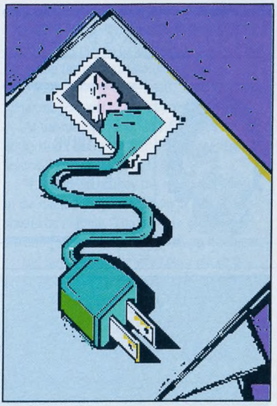
Until recently, support for multiple zones was an option available at extra charge for Intermail, but Internet has now decided to include the feature in all versions of its program. With the Chooser Desk Accessory, a user can select any Intermail server on the network. InBox Version 2.0 also lets network traffic be distributed over more than one Message Center at no additional cost. The installation process, however, requires that each user select a single Message Center; others can be accessed only via an "Inter Office Send" command on InBox's pull-down menu. To assure permanent direct access to a different Message Center, reinstallation of the user portion of InBox is required.

The bottom line

InBox's interface is crisper and more elegant, though some of its features depart from the Macintosh standard. Some of these innovations — using sliders instead of scroll bars — are merely cosmetic. But others may cause real confusion. Attempting to drag an unwanted message to the Trash Can icon included in the Desk Accessory window produces nothing but frustration; that is not how InBox messages are deleted. You must first select the message(s) with a check mark and then click on the trash button.

Intermail's user interface seems a bit Spartan when compared with InBox, but it does the job. Although there are fewer graphic keys for preparing or reading messages, there is an on-line tutorial to answer questions. Making the Help file context-sensitive and accessible in editing and reading stages would make it even more useful.

While InBox has a nicer-looking interface,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Intermail usually requires fewer mouse clicks to get something done. Intermail seems to run faster as well; InBox is more apt to produce "Waiting for the network" messages even on a small network.

Does the functionality of these programs justify the cost? We think so. Both programs include the basic features of a good E-mail package — sending memos and phone messages, including files with memos, return replies, message forwarding and password protection. The basic three-user InBox starter kit lists at $350, with additional user connections at $125 each.

Intermail has just raised its prices substantially, to $349.95 for a four-user kit, $649.95 for five to 10 users, $999.95 for 11 to 20 users and $1,499.95 for 21 or more users. Even after the increases, though, Intermail is the more economical at most price points, and as the network grows — especially beyond 21 users — the Internet package becomes more of a bargain. (See chart on previous page.)

Only InBox, however, currently is capable of supporting IBM PCs and compatibles on an AppleTalk network. Think's DOS software, InBox/PC ($195), has most of the features of InBox 2.0 for the Mac. It runs with AppleTalk cards for the PC from Apple and from Tangent (with the latest software drivers) but not on current versions of Centram's TOPS card.

Both Think Technologies and Internet plan to offer mail links to other computers, particularly minicomputers and mainframes in future versions of their software, along with modem-sharing capabilities. Global access to large-scale mail systems from a Mac may be just around the corner!

If you have four or more users on an AppleTalk network, chances are an E-mail system will bring quick and tangible productivity gains. Which product should you get? If there are PCs on a non-TOPS network, if higher costs are not a problem, and if a slicker interface is appealing, then choose InBox. Otherwise, Intermail makes an excellent choice. Installed on a dedicated or low-use Mac, it provides all the necessary functions in a relatively easy-to-use, lower-cost package. ■

VISIBLE RESULTS

Steve Rosenthal

Even though the brush isn't responsible for the painting, the pen for the poetry or the camera for the image, the tools we use influence the form, content and aesthetics of the results. In this series of columns, I'd like to discuss the difference between the current generation of Mac-based desktop-layout programs and true publishing, especially the effect these programs have on the visual quality of the result.

Simply put, without some artistic vision, so-called desktop-publishing programs let us create vast quantities of unattractive and unreadable material more easily than ever before. Because these programs deal with mechanics, not aesthetics, they don't address the important publishing questions of beauty, clarity and communication.

Layout programs — and, so far, that's all that most desktop-publishing programs really are — replace the waxer, the Ex-acto knife and the pica ruler. They let us take text, headlines, even graphics and arrange them electronically on the on-screen representation of a page.

However, they don't tell us what fonts to use, where to put the graphics or how big the columns ought to be. Like an assistant who carries out orders no matter how nonsensical they may be, a desktop-layout program does its best to cut and place based on, shall we say, the "letter" of our instructions rather than on the intent or the purpose.

By lowering the barrier to entry, layout programs provide ways to accomplish the mechanics of publishing outside the system of apprenticeship that used to provide aesthetic exposure. Yet that design sense is as critical as the ability to draw straight boxes or to flow text.

Some programs do come with "templates" — skeleton publications where you plug in your own heads and copy — and several firms, including industry-leader Aldus, are beginning to sell template collections with standardized formats for newsletters and other projects.

However, as Isaac Goff, president of LaserWare, which publishes the LaserPaint layout program, points out, while templates may work well for standardized jobs such as newsletters, they're not as useful for advertising layout or brochures where imagination and uniqueness are an important part of the created value.

Does that mean that the individual empowerment of desktop publishing on a computer is an illusion? Do we turn all publication design back over to the largely closed cult of the designers? No. Instead, it means that new-fangled desktop layout should be supplemented by some old-fashioned study. Eventually, layout programs will have at least some primitive format tools built in, and we'll have artificial intelligence programs that embody the knowledge of expert designers, but until then the solutions won't be entirely electronic.

For a start, we can turn to the already printed word. There are dozens of books about design that still apply to the electronic design process. Art supply stores might be better places to look than most book stores.

Some desktop-layout program publishers apparently see printed material as a good first step as well. Aldus commissioned Roger C. Parker to produce "The Aldus Guide to Basic Design." The 68-page paperback focuses on general principles and newsletter design. Aldus gives it for free to users who turn in registration cards of certain versions.

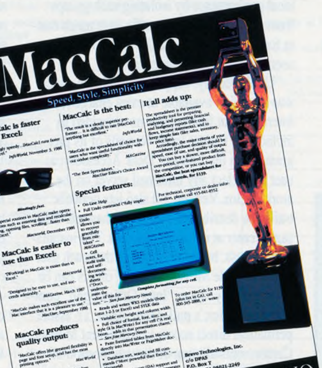
You also can turn to the educational system. Most community colleges and extension divisions of state universities have recognized the need for a wider distribution of design knowledge and are sponsoring more courses. Aldus and several other major publishers also are setting up training programs.

Finally, there's no substitute for keeping your eyes open. If you find a project of the type you might be doing, whether it's a newsletter, a flyer, a brochure or a long document, take an extra minute to check out the appearance of the piece and how the designer handled some of the details. You might want to keep a file with examples, including techniques to emulate and ones to avoid.

As with any art or craft, no amount of study can guarantee that every design you turn out will be stunning, and some people have natural talent that works well without any formal instruction. But for the rest of us, it helps to draw on history, tradition and existing expertise when we sit down to our efficient, easy-to-use and fume-free electronic pasteboards. ■

"MacWEEK generates immediate response for MacCalc."

Richard Ross
Bravo Technologies, Inc.



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Blindingly fast.

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P.O. Box T
Gilroy, CA 95021-2249

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"The layout you created was stunning and high-impact," said Ross. "And the market seems to agree. A Midwest dealer phoned to order MacCalc as a direct result of our new ad in MacWEEK."

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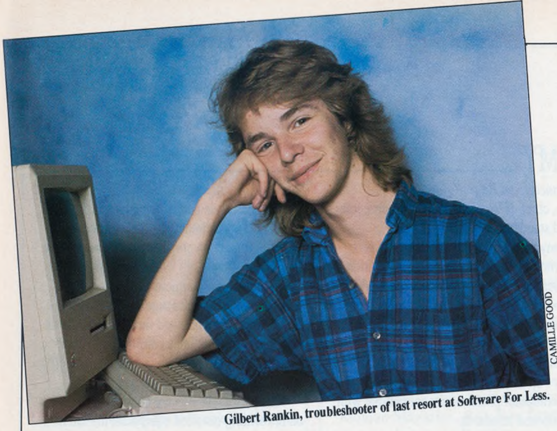


CAMILLE GOOD

Gilbert Rankin, troubleshooter of last resort at Software For Less.

A magician with the Macintosh

BY ELINOR CRAIG
MacWEEK Staff

SAN FRANCISCO — Fifteen pages of text and months of research and writing have gone down the drain.

Gilbert Rankin leans back in his chair, rocking, fidgeting with the mouse, as he waits to see if the FindWrite program can reach into the damaged disk and find words that seem to have made a one-way journey directly to Dimension X. Behind him, a frantic young woman stands with her arms crossed, head shaking in disbelief. With delivery deadline only hours away, her Mac seems to have trashed an all-important disk. There is no backup; she is staring tragedy in the face.

Rankin seems perfectly calm, totally in command, as well he might. Wise beyond his years in the ways of the Mac, the slight, young man often finds himself cast as Mac magician or troubleshooter of last resort at Software For Less, an all-Macintosh discount club in San Francisco, where he works.

Sadly, the desperate woman's trashed disk is not an unfamiliar story, but Rankin is an expert. She came to him after some friends told her if he could not save her disk, she might as well kiss her work goodbye.

Rankin radiates a comforting aura of confidence. Troubleshooting is all he does all day long, at least during the summer, when he is not attending classes at San Francisco City College. Sitting at his desk in a cubbyhole set off to the side of the cashier's counter, he holds court below a large, framed electronic diagram labeled, "Macintosh Computer Additional Schematic." Dressed in jeans and an orange, yellow and red tie-dyed T-shirt, Rankin looks like the San Francisco native that he is.

Only 18, Rankin is half the age of many of his customers, but he knows his stuff. Surrounded by seven Macs, some customized with extra goodies, some with hard disks, and all with external drives, Rankin has his pick of machines on which to run his search programs.

His special relationship with computers began the summer before he started high school. Working for the school district, he had the opportunity to "play around" with an Apple IIe, assisting in tech support. Then, for a couple of summers he went to computer camp, once at Timber Tech in Scotts Valley and once at Stanford University in Palo Alto, Calif.

"I've seen worse than this," he says. "An accountant came in just before taxes were due. His whole hard disk had crashed with all of his records. We were able to get at most of his work, though."

The words are reassuring, but the woman, shifting her weight anxiously from one foot to the other, wants to see her story, at least some of it, before her heartbeat will slow down.

Software For Less is one of a growing group of dealerships that provide individuals as well as the business community with timely and sympathetic crisis support.

"Most of our customers come from the business community," says store manager Les Chapman. "We get everything from people not reading their menus to crashed disk drives not accessing the information on the disk.

"When it is the drive itself," says Chapman, "you can get most of the information back."

At the moment, Rankin is working full time at the store, but in the fall, classes at City College will compete for his time.

"I can't believe they put computer science in the math department," Rankin says. "It should be in logic. You don't have to know anything about numbers to work on a computer, and now they make you take a bunch of math classes. I'm not so great with numbers."

The woman gasps. Words are starting to appear on the screen, scrambled with computer hieroglyphics. Rankin beams up at her. "Do any of these words look familiar?" he asks, grinning.

Sure enough, although there is neither format, rhyme nor reason to the display, it is clear that this is definitely her story. Somehow, parts of it have been translated into machine code.

Rankin swings back around to face his machine. His hard disk holds a myriad of magical utility programs that only he can find. Sometimes, even he cannot find them.

"I know I have a retrieval program somewhere here," he says, opening and closing icon after icon, still relaxed, still confident. Behind him, the woman's body language eases; at least there is something on the screen.

Rankin finds his program and sets it running. Months of work is on its way home. ■

Taking the Mac into a world of illusions

BY PRISCILLA BURGESS
Special to MacWEEK

REDWOOD CITY, Calif. — Like Michael Jackson, Young Harvill is wearing only one glove. But the similarity to Michael Jackson stops there. For one thing, Harvill, 34, is sitting in front of a Mac. For another, his glove is plain white; the only color is in the ribbon cable connecting the glove to a control box next to the Mac. Harvill looks less like a rock star than a Stanford graduate student, which is what he was until a couple of years ago when he joined VPL Research.

Now he peers through a pair of tortoise-shell glasses at the Mac. On the screen is a wire-frame image of a hand, similar to the armature a sculptor might build to support a clay sculpture. A cube floats near the imaged fingers.

"Watch the index finger on the screen," says the soft-spoken Harvill, whose title is graphics system programmer — but who has, in fact, been a sculptor, a fine artist and an art professor — "and you'll see what happens when I move mine." Harvill wiggles his index finger and, sure enough, the wire-frame index finger on the screen wiggles, too.

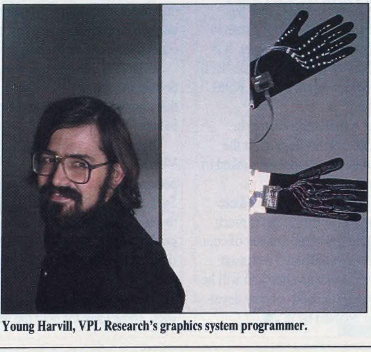
Harvill's glove is a VPL Research DataGlove, created by Tom Zimmerman, fitted with sensors that pick up the position and orientation of the hand as well as finger movements. Harvill goes on: "Now watch this." Harvill's gloved hand moves in space and grabs an imaginary object. The imaged wire-frame hand mimics the motion, captures the cube and moves it around the screen, all by remote DataGlove control.

Harvill is not a magician, but he uses a Mac to create illusions. In fact, he is a software artist who uses VPL's visual programming language to create computer-generated models of solid objects. If a customer needs to see a ketchup bottle on the screen, or a frog or a spaceship control panel, Harvill codes it into existence. These imaged objects can then be handled as if they were real by a person wearing the DataGlove.

The full DataGlove system, which costs $10,000, consists of Zimmerman's glove and control box, Harvill's modeling program and the application software written by Chuck Blanchard.

The DataGlove is one of several advanced graphics products created by VPL's 15-person staff. The firm, whose offices in the Redwood City Marina overlook a jumble of masts, a mountain of salt and the GLOMAR Explorer, was founded by Jaron Lanier, who wrote the visual programming language Mandala, and Anne McCormick. It is now headed by Jean-Jacques Grimaud, a native of France who has a master's degree in business administration from Stanford University in Palo Alto, Calif.

Among many interesting applications, the National Aeronautics and Space Administration (NASA) is using DataGlove to create imaginary control panels for its new space station. Because the space station has many things to control and limited space for control panels, a technician will wear a special helmet that projects an image of a large, complicated control panel. The technician will use DataGlove to push buttons, turn switches and select elements on this virtual control panel. There will be no physical reality to the panel; it will be an illusion.



CAMILLE GOOD

Young Harvill, VPL Research's graphics system programmer.

Harvill has always been fascinated by illusions. "A drawing or painting is an illusion of physical reality," he says. "The artist transforms three-dimensional reality into a two-dimensional illusion. In order to create a successful illusion, the drawing must be absolutely realistic. If it doesn't look exactly like the physical reality, there is no magic."

After four years of art school and five years of teaching at Evergreen College in Washington, Harvill says he felt he had exhausted his fascination with two-dimensional illusion. In 1982, he entered the master's of fine arts program at Stanford, where his interest in creating illusions of solid objects led to a study of holography.

At first, Harvill built balsa wood models and then, using a coherent light source and a stable table, recorded the wave fronts of the light as they were reflected from the model. When the Macintosh — and an early version of Mark Cutter's MacDraw — came on the market, Harvill began using assembly language to create computer-generated objects that could be used for holography, eliminating the need for balsa models.

The solid-object modeling program that Harvill developed for his holograms is the foundation for the software VPL uses for modeling and controlling DataGlove "objects." Harvill's background as a fine artist was essential for the success of the software. "The essence of two-dimensional art is the understanding of how light is reflected from solid objects," he says. "To create solid-object modeling software, you have to mathematically model the way light falls on an object so that it appears solid or real on the screen."

While creating software does not have the immediate artistic rewards provided by drawing or painting, Harvill says he does not regret the shift from art professor to programmer. He views the Macintosh screen the same way he views a piece of paper or a canvas: as a medium for magic. ■

CLARIS

Continued from Page 1

enter into agreements to market programs from other third parties.

Claris reiterated its position as a wholly owned unit of Apple, but added that it aimed to be totally independent within a year. The company will have its own logo, and while it resides in Apple-owned office space, Claris hopes to find a location away from Apple.

The management team is composed mainly of former Apple employees. In addition to Campbell and Zeisler, the group includes Dan McCamman, chief financial officer; Yogan Dalal, chief technical officer; Randy Komisar, chief legal counsel; and Donna Dubinsky, head of international marketing.

Only Dalal is not an Apple veteran. He was a vice president of Metaphor Inc. and a developer at Xerox's Palo Alto Research Center.

Despite Claris' name, the company's charter is not so clear to many in the industry. Since the new company will compete against developers who once worked closely with Apple, some third-party companies worry that development and marketing plans they had previously revealed to Apple will now become known to Claris.

"What assurances do I have that my secrets are safe?" asked Dave Winer, president of Living Videotext, a division of Symantec.

But Tom Evslin, president of Solutions Inc., developer of Glue and Desktop Express, discounted the concern. "I'm not aware of any conflict in channels. I'm not worried that what I tell Apple about my software plans will become Bill Campbell's software plans."

Jeff Tarter, publisher of Soft Letter, a Boston-based newsletter that monitors the software industry, says he feels that much of the furor was "missing the point."

"In practice, all they are doing is changing the name on the box. That doesn't change the broad competitive issues.

If you are selling a word-processing product, you are still selling it against MacWrite," Tarter says. ■

HYPERCARD

Continued from Page 1

"We will show it in three sessions, and it will be shipping at the same time. That's the plan anyway. There is still a lot of work to do."

HyperCard, originally called WildCard, is a sophisticated software erector set and database with hypertext-like features, graphics development, sound generation and scripting. "It's a personal toolkit that lets you snap together applications," Atkinson says.

Concerning the bundling of the Mac, the reins are being held by Apple's marketing department, according to Atkinson. "They say it looks like an application. Even so, I feel strongly that it should be bundled. It is the completion of the Mac dream."

"I'm not sure we know what we are going to do with it," says Kin Seto, manager of the evangelism group at Apple. Until now, Apple has not even admitted the product exists.

The debate between Apple and third-party developers over HyperCard's status is heating up as the Mac Expo draws near. Those expecting to be hurt the most from the competition are the low-end database program developers.

After creating a software development spinoff to stem confusion between Apple and third-party developers, Apple appears to be breaking its own rules by considering giving away HyperCard with new Macs.

"I'm confused," says Rob Campbell, president of Forethought Inc. in Sunnyvale, Calif. "I applaud Apple's efforts to eliminate confusion. But they could have gone longer before stepping on the line. I like competition, just with some sense of understanding of who is doing what to whom."

Apple is considering bundling HyperCard because the company views it as system software, which falls into the description of Apple's new role, according to sources.

"Apple wouldn't be that dumb," says Alan Boyd, president of Owl International Inc. "To give it away closes down creativity in the areas bundled. The real discussion is the negative impact it will have on the developer community. They will be mad if Apple puts HyperCard out, furious if they bundle it."

However, some people outside of Apple are sympathetic to the bigger picture for the future of the Mac.

"My feeling originally was that it was clearly a competitive product, not system software," says Jack Kolk, vice president of research and development at Bonsu, a Mac-only distributor. "After seeing the program, though, I agree with Apple's stand. It can be looked at as system software."

Some people say it looks like an application, not an authoring tool.

But, Atkinson says, that misses the point. "There is no reason for developers to worry. It is an extension of the system. Yes, it comes with sample stacks that illustrate how the program can be used.

"And yes, some of the stacks can be viewed as competing with companies that sell Desk Accessory programs, for example. But the sample cards' purpose is as a learning path to help the user see what possibilities exist. It is as much a part of the system as the Finder is. If we had more ROM, we would put it in ROM," he says.

This flexibility represents a change in Apple's strategy toward developing for the Mac, according to one developer who asked to remain anonymous.

"[HyperCard] will enable so many more people to be developers. That effect is much more important than any small amount of competition it creates for publishers," Atkinson says. "Those developers who complain will be shouted down by the thousands of new developers who will be enabled by it." ■

ARMY

Continued from Page 1

Keane, chief of Rogers' office of interoperability and standards.

Many product vendors and Army users, concerned by this limitation on competition and alternative solutions, have been working hard behind the scenes to convince government officials that the plan would jeopardize operating economy and efficiency. Among the vendors are Unisys, AT&T, Hewlett-Packard, Honeywell and Apple, the largest vendor of microcomputer products not compatible with the proposed standards.

"Mac advocates and end users in the Army have been working hard to ensure that innovative technologies are available," says Ron Oklewicz, Apple's federal operations manager. "We have been assisting the Army effort to demonstrate how the Mac can support their mission. It's an age-old struggle between protecting inventories and adopting innovation."

Known as the Information Mission Area Standards, the plans initiated a recent order from William H. Taft IV, deputy secretary of defense, to John O. Marsh Jr., secretary of the Army, to "immediately withdraw these standards from use [and] develop a revised standards proposal" after reviewing Army requirements that cannot be met by previously existing standards.

Marsh also received a request from Rep. Jack Brooks of Texas, chairman of the House Committee on Government Operations, urging him "to reject any proposal by the military which would limit competition in the Army's ADP procurements." Brooks said in his letter that competition restrictions bring agencies "the least innovative products … waste taxpayers' money" and potentially violate two laws of Congress requiring "full and open competition in federal procurements."

This dispute is part of the larger subject of the federal government standards process. Its potential impact on corporate users purchasing from industry vendors who want to be eligible for government equipment contracts may be widespread. Although Paige's proposed standards would have allowed time for vendors to make their product lines conform, the directive went so far as to contain wording copied verbatim from IBM equipment manuals.

Army officials also are questioning a policy on retrofitting installed equipment to match new standards. Any long-term solution is considered to be on the order of adopting industry standards such as the operating-system interface POSIX (Portable Operating System for Computing Environments based on UNIX).

The basic issues in government computer procurements have been simmering for several years, but they were brought to the forefront, at least in Apple's case, by Apple's recently increased presence in Washington and aggressiveness in competing for large military computer equipment contracts.

Some observers trace the dispute's origins to the fact that purchases are strongly influenced by computer personnel who started in the industry when IBM was the only equipment available. Another obstacle for Apple to overcome is the image of the original Macintosh as a toy with limited speed and storage capacity. The original Mac's graphics orientation and intuitive interface did not impress computer managers who were familiar with keyboard-command systems.

However, the Mac's proponents in the Army point to the significant savings in training costs for an organization with high turnover of field personnel. ■

SYMANTEC

Continued from Page 1

company had a definite influence on my decision to go through with the merger," says Winer. He also says Apple seemed to be teaching that software companies are going to "need to be big to survive" in the industry. Together, the companies will be large enough to market products more aggressively and effectively.

Symantec is negotiating further mergers and acquisitions with unspecified companies. The current plan is to continue developing in the area of graphics presentation and to expand into product development dealing with network communications, according to Winer.

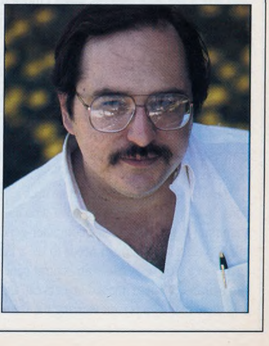
Business networking demands and Apple's decision to spin off a company are both factors that may initiate a trend of mergers in the industry, says Eubanks.

It has always been the philosophy of Living Videotext that strength on both sides of the personal computer market is essential. Spokeswoman Kandes Bregman says that though Living Videotext "loves the Mac," its products are actually divided between applications for the Mac and the IBM PC.

Living Videotext markets the idea processing/presenting program MORE for the Macintosh, ThinkTank for both the Mac and IBM PC and Ready! for the IBM PC. Symantec's products for PCs include a file management and word processing program, called Q&A, and the project management software Time Line.

Bregman says the merger won't affect either firm's marketing arrangements for existing products. They will share technology, ideas, and sales and service forces. The combined installed base of the firms is 500,000 users. ■

David Winer: "Apple's decision to spin off a software company had a definite influence on my decision.



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MacWEEK

MAC THE KNIFE

Clarity, clarity. It's Latin to me, Emily, but the fog seems to be lifting from over Cupertino. Better still, as Expo approaches, other phantoms are emerging from the vapor.

August should be an interesting month. For one, you may be able to get a legal release copy of Juggler. Hope you didn't download a beta copy from a bulletin board. Those calls from Apple's software police can be soooo disturbing. But don't worry, the Knife suggests that you just tell them to contact your attorney. That seems to calm them down a bit.

Another program that should materialize in August is a release version of Ashton-Tate's dBASE Mac. Meanwhile, Blyth is hard at work on a Windows version of Omnis, and Fourth Dimension started shipping at the end of June. Three interesting perspectives on how to address the database market: DOS guys attacking the Mac market, Mac guys attacking the DOS market, and these new kids saying they'll eat the other two for breakfast. Really.

And Apple, you ask? They've got lots of products to introduce, software and hardware. How about a version of AppleShare that doesn't require a dedicated server. Can you say "slow response time," Emily? Or would you perhaps like a 24-pin dot-matrix printer with PostScript for under a grand? Or maybe a fast laser without PostScript for under two grand?

No slouch

A laser printer without PostScript sounds bizarre. But the fact is a printer with the ability to interpret QuickDraw could produce both beautiful documents and print bit-mapped graphics very quickly. And remember, Emily, Apple is no slouch in the printer department.

On the System/Finder front, don't be too surprised to see yet another version out before your color Mac II is delivered. Beta testers are already using a Control Panel that has color options that you've seen only in Oz.

With all this action, you may be asking about FullWrite. You saw the demo in January. You read ad copy in the monthlies all spring. You expected to see Ann Arbor SoftWorks' second major product by Memorial Day. Now, Independence Day has come and gone and nary a peep. Even though beta copies were shipped to testers last week, we're still awash in rumors: Sell outs, buy outs ... it would make Ivan Boesky jealous.

Trust me, Emily, when you finally see FullWrite on the shelves, it'll be an Ann Arbor product. What I can't tell you is who'll own Ann Arbor by then. Somebody wants to buy it, and all that remains is to work out the terms of the purchase. FullPaint has been Ann Arbor's cash cow, but with SuperPaint on the market and Pixel Paint and maybe even MacPaint 2.0 on the horizon, the cow may be running dry.

Speaking of word processors, most of us are waiting for the release of Word 3.01. You know, the one that fixes the 500 or so bugs in 3.0. What you may not know is that Microsoft stopped shipping 3.0 in April. Any copies you bought in the meantime, Emily, were already in the distribution channel. Don't you think that if it's buggy enough for Microsoft to stop shipments for months that a public apology is in order?

PARC strikes (out) again

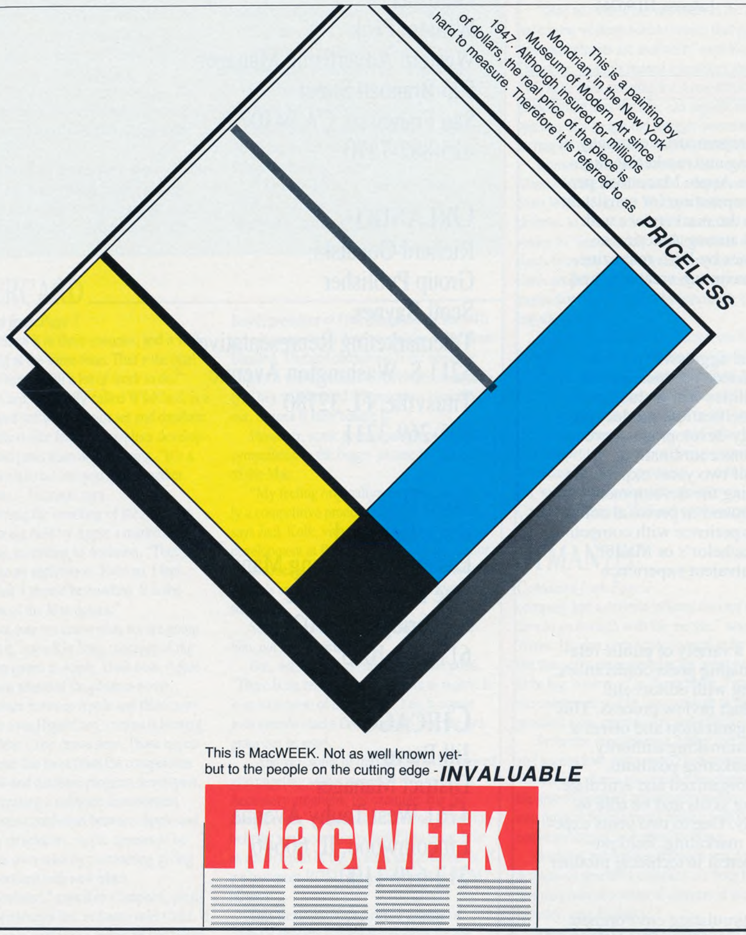
When is a NoteCard a WildThing? Remember those guys at Xerox who developed a graphics window user interface but could never market it? Seems they're at it again. Just as HyperCard (alias WildCard) is ready to burst on the scene, Xerox is ready to drop the original. (They called theirs NoteCards.)

Two sides to every story department: At least one workstation manufacturer has been publicly bad-mouthing the Mac. No competition at all, they tell the press. One company executive publicly compared the Mac to a stereo system: a product for the retail channel and not a volume product for the corporate market. According to this management type, UNIX on the Mac II is a joke and Apple overreached by even considering the endeavor on such anemic hardware. So Emily, why do I keep hearing that this same manufacturer is secretly developing a Mac II clone?

Evil Empire Watch: Unless the president (Reagan, not Sculley) prevails, you can kiss that Apple-logoed Mac CD-ROM player you wanted for Christmas goodbye. The Senate just voted (92 to 5) to punish Toshiba for selling advanced submarine technology to the Soviets. No Toshiba sales in the U.S. for up to five years, and that includes those CD-ROMs that Apple intends to market. Is this any way to run a trade war?

***

The Knife's blade needs constant whetting. A sharp tip yields a hot mug. Contact Mac at (415) 882-7370 or on MCI (MactheKnife) and Emily will send you one. ■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